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CHESHIRE COUNTY COUNCIL.

EDUCATION COMMITTEE.

REPORT

OF THE

Chief School Medical Officer

FOR THE YEAR

1927

BY

MEREDITH YOUNG,

M.D., D.P.H., D.S.Sc.,
Of Lincoln's Inn, Barrister-at-Law,
Lecturer in School Hygiene, Victoria University of Manchester.

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MEDICAL INSPECTION-

STAFF.

School Medical Officer:
Meredith Young, M.D., D.P.H., &c.

Assistant Medical Officers:
A. V. Stocks, M.A., M.B., Ch.B., D.P.H.
W. J. McIvor, B.A., M.B., Ch.B., D.P.H.
Jenny C. King, M.B., Ch.B.
Mary Sheridan, M.B., Ch.B.

Ophthalmic Surgeons:
E Nicholas Hughes, M.R.C.S., L.R.C.P., D.O.M.S., (R.C.P.S.)
Cyril Jacobs, M.B., B.S.

School Dentists:
S. Whitworth, L.D.S.
S. O. Stewart, L.D.S.
H. R. Parry, L.D.S.
E. S. Butt, L.D.S.
Leonard N. Alley, L.D.S.

Health Visitors: 35.

Dental Nurses: 5.

Superintendent Clerk:
Vincent O'Connor.

CHESHIRE COUNTY COUNCIL.

EDUCATION COMMITTEE.

INTRODUCTION.

To the Chairman and Members
of the Cheshire Education Committee.

Mr. Chairman, Ladies and Gentlemen,

I beg to present you with my Report on the Medical Inspection Scheme of your Committee for 1927.

The work has proceeded smoothly and some extensions have been carried out. Further dental inspection is required and some extension of minor treatment Centres, but your Committee will, I know, deal sympathetically with any proposals to these ends when they are put forward.

I am greatly indebted to your Committee, to the whole of my Staff, to Teachers, School Attendance Officers, Inspectors of the N.S.P.C.C. and to my official colleagues for much valued assistance always cheerfully given.

I am,
Your obedient Servant,
MEREDITH YOUNG.

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CHESHIRE COUNTY COUNCIL.
EDUCATION COMMITTEE.

ANNUAL REPORT.

OF THE

CHIEF SCHOOL MEDICAL OFFICER

for 1927.

Extent of Inspection.

The following figures shew the gross numbers of children inspected :—

		Number examined.
Routine Inspections	Entrants	7,266
	Intermediates	5,685
	Leavers	6,058
	Total ...	19,009
Special Inspections		6,997
Re-Inspections		2,366
		9,363
	Grand Total ...	28,372

The total number of inspections is greater by about 1,000 than that for 1926. This is chiefly due to the fact that more special inspections (eyesight, minor treatment clinics, &c.), were carried out.

Co-ordination.

The medical inspection scheme is as closely associated with other public health schemes as it is possible to make it. A closer co-ordination with the Factory Inspection scheme is desirable here as it is all over the country, but this is a matter for the Government Departments concerned to bring about.

Co-operation of Teachers and Parents.

Without exception my staff and I have received invaluable assistance from Teachers and I acknowledge this with great gratitude. Parents too are shewing a greater interest in the work as evidenced by the fact that they attend inspections in considerable numbers. The number of refusals to permit children to be examined is so small as to be almost negligible. On this point I may quote the remarks of two of my staff :—

Dr A. V. Stocks reports :—

"In almost all the schools in my area I have had the most cordial co-operation from the Teaching Staff; the medical inspection often occasions inconvenience to them in their regular work and it also entails much clerical work in the preparation of medical cards, and in the weighing and measurement of the children. One finds a growing appreciation of the fact, so often pointed out by Sir George Newman. that health and education are inseparably bound together and that 'the health and well-being of the child is the primary foundation of its education.' Some teachers are already studying the 'Handbook of Suggestions on Health Education' issued by the Board of Education, from which the preceding quotation is taken, and one would like to see every teacher becoming conversant with its contents. There is room, particularly in Infant Schools, for more training in hygiene of an elementary nature, including cleanliness especially. The posters issued by the 'Health and Cleanliness Council' are already in use in some schools. This is the vital time in school life to instil and to form habits that mean so much in the prevention of disease in later years; it would also save much needless waste of time in trying to correct wrong habits later in the other departments. For example, much untidy and soiled work would be prevented if children were taught as soon as they commence school life never to work with dirty hands. Nasal hygiene, tidiness of hair, care of finger nails, emptying of washbowls after use and many other similar matters often waste the time of teachers or older children that would be saved if these lessons were taught in the formative years.

"The proportion of parents attending at the medical inspections continues to grow in the area for which I am responsible. It may be of interest to give the exact figures for several years :—

In 1921	1,100	parents attended	or about	25%	of routine cases examined
In 1922	1,550	,,	,,	30%	,,
In 1923	1,608	,,	,,	30%	,,
In 1924	2,087	,,	,,	33%	,,
In 1925	2,139	,,	,,	40%	,,
In 1926	2,364	,,	,,	45%	,,
In 1927	2,595	,,	,,	47·5%	,,

"It is gratifying to find the parents taking more interest and coming to understand what the objects of medical inspection really are. It is not uncommon for them to express appreciation of the scheme and to ask for other children outside the routine age groups to be included. If at times this growing interest is almost an embarrassment by adding, as it does, to the time taken up, it does contribute to the efficient working of the scheme most materially, as only the best results can be obtained where all three parties are in close co-operation, *i.e.*, teacher, parent and doctor."

Dr. Jenny C. King writes :—

"I should like to mention how much I have appreciated the help given by the teachers during my visits to the schools. In all cases everything has been done to make my work run as smoothly as possible, in many cases at considerable inconvenience to the teachers themselves.

"The parents have attended well, especially in the infant departments. In most cases they are anxious to hear the report and willing to do anything that may be suggested.

"*In one Infant School where 150 children were examined 130 mothers were present.*"

Hygienic Condition of Schools.

Any matters requiring attention in this respect are reported to me and are at once forwarded to the Director of Education who takes the case up with the Managers concerned. I realise that there are often difficulties in the way of securing what is desirable but I find an increasing willingness to do the best possible under the circumstances.

The following are the remarks of Dr. Mary D. Sheridan on the sanitation of the schools in her area (West Cheshire) :—

"*Floors.*—In several schools I have noted that the floors needed repair. In some places the floors are washed only once a term. This is not sufficient, especially where the floorboards are old and chipped.

"*Windows.*—In many schools window lighting is most inadequate. In a few cases trees obstruct the light. At one School the windows look out on to a narrow alley, and artificial light is necessary during nearly the whole of school-time on dark days. Dr. Hughes suggested that a thick coat of whitewash on the blank wall would at least help a little, but I understand the owners of the wall objected to this proposal.

"*Artificial Light.*—In several rural schools there is no artificial light whatsoever. In others there are a few ancient oil lamps suspended by rusty chains from the ceiling, which have obviously not been put to practical use for many years. I understand that as far as possible only oral lessons are given during the last lesson period in the afternoon, but during December and January it is often so dark all day that good artificial lighting is not only desirable, but necessary. In some cases the surrounding houses are fitted with electric light, while the school still does as well as it can with oil lamps.

"*Playgrounds.*—These are frequently too small, and very often not paved in any way. In these the playgrounds are dirty and dusty in summer and in wet weather are little better than stretches of mud. Sometimes the children have to walk through large pools on their way to the offices. At least if the whole playground cannot be paved there should be a causeway of stones made from the porch to the offices so that the children need not sit with wet shoes and stockings after the play-time interval. In some schools the cement has become cracked and 'pot-holes' (which are danger traps to small children) are abundant.

"*Cloakrooms.*—Those schools which I reported last year as being deficient in cloakroom accommodation are nearly all being moved into other buildings this year (*e.g.*, Whitby Council where overcrowding was most noticeable). In most schools each child has its own individual peg, numbered or marked in some way.

"*Lavatories.*—In rural schools these are often very inadequate. In one school there is one wash basin to 159 boys. Even in the most modern schools there are only two or three roller towels to several dozen children. These are usually damp and unclean very soon after they are put up. In my opinion individual towels are quite as important as individual pencils, etc. If impetigo and scabies can be spread by pencils, surely the communal towel is also a possible source of infection in skin diseases? It might be made a rule that each child brought its own small towel. They can be bought for a few pence and could be hung on the child's peg during the week, and taken home on Fridays to be washed.

"*Closets.*—These are usually kept as well as possible by the caretakers. In some schools the seats need repair. The cabinets might *all* be whitewashed more frequently than they are. In some cases the lighting is poor. Where dry closets are used conditions are never ideal, but the head teachers are usually most careful to see that chloride of lime, etc., are used frequently. In many schools the office floors are flooded during the whole time that wet weather lasts.

"*Urinals.*—These are seldom drained properly. Occasionally there is no channel whatever and in many other cases the grids are choked with sand, leaves, and all kinds of refuse. Wherever water is available pipes might be laid on to the offices and elsewhere bucketfuls of water thrown down the channels two or three times daily to prevent blocking.

"In two schools the little boys' urinals are under roof-cover, (and therefore insufficiently ventilated and deodorised), and in each case the closets adjoining are used by the little girls as well as the boys. This state of affairs is very objectionable for several reasons.

"*Desks.*—The old fashioned school 'forms' are still seen, but are gradually being replaced by the modern dual desk with backs and foot rests at the correct levels.

"*Heating.*—This is usually quite satisfactory."

The Findings of Medical Inspection.

These are shewn *in extenso* in Table II. but I may just quote the following as outstanding features. Defects requiring treatment were recorded as under :—

Malnutrition	65
Uncleanliness	934
Ringworm	199
Impetigo (an infectious skin condition) ...	1278
Defective Vision (excluding squint)	3061
Squint	451
Defective Hearing and Ear Disease	297
Tonsil and Adenoid cases	1256
Dental Disease	1868

The last figure refers to the cases discovered by the Assistant School Medical Officers alone. In addition to the above the following more serious conditions were discovered :

Heart Disease	275
Bronchitis	130
Definite Tuberculosis (all varieties)	53
Epilepsy	12
Rickets	82
Spinal Curvature	85
Other Deformities	62

The practical utility of these findings in itself demonstrates the need for medical inspection.

The following are the remarks of the Assistant School Medical Officers on some of these conditions.

Cleanliness, Clothing, &c.

Dr. Mary D. Sheridan reports as follows under this heading:—

"*Clothing Defects.*		Boys.		Girls.
1.7 per cent. of cases	...	49	...	54

(Last year's average, 1.5 per cent.)

"These were found to have defects of boots and clothing. The most common defects were uncleanliness and lack of repair. About 30 per cent. of school children wear too many garments, and I have found that it is usually those parents who overclothe their children who are least particular about washing and mending. It is customary also, among mothers of elementary school children, to sew or pin layers of wool (Thermogene being prime favourite) over the chest at the beginning of the cold weather, and to allow the wool gradually to wear away. By the time the last pieces are reached the wool is dirty and insanitary in the extreme. These and other objectionable habits that have their origin in ancient superstitions will only be eradicated when health habits and the principles of hygiene have been more thoroughly understood by the parents. *Four* children (two boys and two girls) were grossly overclad. One girl was wearing *ten* layers of clothes—mostly woollen jumpers. *Two* girls were insufficiently clad. One was wearing only three cotton garments, a chemise, a petticoat, and a print frock (no knickers). I examined her on December 21st, when the weather was bitterly cold.

"Notes were sent home in all cases.

"*Defects of Cleanliness* (Head and Body):—

		Boys.		Girls.
8.1 per cent. of all cases	...	72	...	403

"My numbers this year are so much larger than last year (2.8 per cent.) because I have included every case of nits in the hair, no matter how few were present. Dirty heads are still much less common among boys than among girls, in spite of the fact that the latter have improved since short hair came into fashion. But I have found the boys far less careful about washing their necks, bodies and knees than the girls are. The percentage of uncleanliness amongst girls is much higher than the average for girls and boys together, being 14.4 per cent. It is very instructive to work out the numbers for different areas. For instance:—

	No. examined	Unclean	Per. cent.
New Ferry School	137	17	12·1
Ellesmere Port School	218	48	21·8

i.e., in New Ferry the average uncleanliness is 2.3 per cent.

less than for all girls in West Cheshire, and in Ellesmere Port is 7.4 per cent. greater. The parents were notified on the special form in every case."

Dr. Jenny C. King writes :—

"Out of 3,183 children examined 205 were found to have unclean heads, *i.e.*, 6.4 per cent. of all cases. .7 = Boys. 5.7 = Girls.

"This is a very high percentage, but it includes all children (460) re-examined (without warning to parents) as well as children falling under the routine inspection of entrants, intermediates and leavers.

"Cases where only a few nits were found have not been counted."

Malnutrition and Allied Conditions.

Dr. Jenny C. King reports that :—

"Several schools have instituted a scheme by which any child may have a glass of hot malted milk at 11 o'clock, for the small charge of ½d. per day.

"I think this is an excellent thing and should be encouraged, especially in country schools. So many children attending these schools have a very long walk in the morning, and in many cases they are bundled out of the house after an inadequate breakfast, to face the walk in all weathers."

The following is an extract from a report by Dr. Mary D. Sheridan :—

"*Delicate Children.*—These are fairly common in all areas, and particularly in Moreton, Ellesmere Port, Frodsham and Hoole. Total 178 or 3 per cent. of all routine examinations. Boys 103 ; Girls 75.

"They may be conveniently classed as follows :—

"1. *Malnutrition.*

Total.	Boys.	Girls.
16	10	6

"Nearly all of these children came from very poor homes. In two cases the father was out of work ; one child showed evidence also of severe rickets : in another the condition was associated with mild epilepsy. These are cases that (since we have no central school clinics in my area) would benefit very greatly from some school scheme for distribution of cod liver oil and malt, virol, or some other nutritious tonic. It is difficult to help them otherwise. Where possible I referred them to such charitable organisations as The Invalid Children's Association, and Holiday Camp Funds, etc.

"2. *Anæmia.*

Total.		Boys.		Girls.
64	...	27	...	37

"These children all showed evidence of anæmia so marked as to constitute actual physical defect. ("Thin and pale" children will be found in a later section). Six of the cases (3 boys and 3 girls) had associated functional cardiac murmurs. One girl was also suffering from chorea, and one boy from nephritis. Another boy was the stepson of a woman who was suspected of neglecting him. Several of the other children gave a history of some recent disease (I have noted cases where the condition was subsequent to an attack of measles, whooping cough or scarlet fever). General treatment by fresh air, sunshine, suitable food, and tonics under medical supervision was advised. A holiday was needed in a few cases.

"3. *Debility.*—These cases were very numerous. I have sub-divided them as follows :—

	Total.		Boys.		Girls.
Debility	60	...	43	...	17
Suspected, latent, or pre-Tuberculosis	38	...	23	...	15

"The first group of children were all thin, weakly, pale and fretful. Many of them were of the hyper-excitable, intelligent type, but a few, from sheer weakness, were definitely lethargic, and consequently backward at lessons. In a large proportion of these cases the children came from poor homes, but it was surprising how many of them were the precious only darlings of doting parents, who, we suspect, spoil and pamper the child until it really has no chance to grow strong and vigorous like the children of large families, who have always to rough it to a certain extent. I have noted a few cases where the debility was associated with some other disease or defect, for instance—two girls had corneal ulcers, and one of these was very unclean; two girls were twins, the other twin in each case being normally grown and healthy; one boy had large and septic tonsils; another boy had chorea; still another suffered from occasional asthma; and one boy had rickets and blepharitis.

"The children suspected of *Pre-Tubercular Conditions* were fairly numerous. These were all advised to seek expert advice from the District Tuberculosis Officer. Many of them had a "consumptive" family history, and were already under supervision. Two boys had, in addition, large glands in the neck; another had a functional mitral murmur. Many of them were offered a term at Frankby, but only about half the parents agreed to allow the children to be sent away. The compulsory vaccination prior to admission to these Institutions is sometimes a stumbling block—I have made a few notes regarding vaccination later—and sometimes the distance from the child's home is put forward as an excuse; in other cases the refusal arose from downright wrongheadedness and obstinacy; parents of the lower type of intelligence are always inclined to resist any form of authority. Those parents who did avail themselves of the opportunity for sending their children to Frankby were more than satisfied at the result. The children returned home rosy, bonny, and full of health and good spirits."

Skin Diseases.

In this group Impetigo—a highly contagious condition—still looms large. Vigorous measures are always carried out in order to prevent the condition assuming epidemic form.

No other disease under this heading calls for special comment, but I quote some remarks of the Assistant School Medical Officers on the subject.

Dr. A. V. Stocks reports:—

"Only two cases of scabies were seen at the routine inspections

"The incidence of impetigo shows no lessening. The number of children affected with it at the routine inspections was 88, more in proportion than last year. At three Minor Ailments Clinics we have been experimenting with Acriflavine, 1 in 1,000 in paraffin emulsion, prepared according to Stowell's formula. This has given very good results, and in many cases has resulted in a quicker cure than is usually obtained with mercurial ointment. The treatment is simple and inexpensive."

Dr. Mary D. Sheridan writes that:—

"*Skin Diseases* were found in 1.6 per cent. of all cases, viz., 50 boys, 44 girls. (Last year 1.4 per cent.)

"The commonest condition was, of course, impetigo, (Boys 36, girls 33). In all cases where the condition existed on an exposed part (hand, arm, face, neck, knee), the child was excluded. In other cases the child was allowed to remain as long as the patch was not large or actually spreading. Other conditions noted were these :—

	Boys.	Girls.
Ringworm (excluded) ...	3 ...	2
Scabies (excluded)	5 ...	1
Eczema	2 ...	2
Icthyosis	3 ...	—
Psoriasis	— ...	3
Alopecia	1 ...	1
Acne	— ...	1
Purpura	— ...	1
Molluscum Contagiosum ...	1 ...	—

Eye Diseases and Defects of Vision.

The principal disease to be noted under this heading is Blepharitis—an inflammation of the edges of the eyelids which is often associated with malnutrition. If not properly treated it may lead to loss of all the eyelashes—a distinctly disfiguring condition.

The cases of defective vision discovered at routine or special inspections numbered 3,061—a very high figure and a distinct increase on the number of such cases found in 1926. There are some interesting matters in the reports of the Assistant Medical Officers, which I reproduce.

Dr. E. Nicholas Hughes (School Oculist), reports as follows :—

"1,886 School children were examined during the year 1927 in 185 sessions. The following is a classified list of the various errors and eye diseases discovered :—

	Boys.	Girls.
Hypermetropia	68 ...	68
Hypermetropic Astigmatism	179 ...	170
Myopia	40 ...	68
Myopic Astigmatism	40 ...	78
Mixed Astigmatism	28 ...	32
Right Convergent Concomitant Strabismus	23 ...	13
Left Convergent Concomitant Strabismus ...	44 ...	36
Alternating Convergent Concomitant Strabismus ...	3 ...	2
Divergent Strabismus	3 ...	5
To wear own Glasses	50 ...	170
Wearing unnecessary Glasses	— ...	2
Glasses not required	168 ...	77
Blepharitis (Chronic)	27 ...	38

	Boys.	Girls.
Cataract Congenital Lamellar	1	1
Cataract Anterior Polar	1	—
Cataract Traumatic	—	1
Conjunctivitis (Catarrhal)	3	7
Conjunctivitis Follicular	4	1
Corneal Ulcer	3	5
Corneal Nebulæ	14	15
Coloboma Iridis et Choroid	—	1
Chorio-retinitis (old)	1	—
Dacryoadenitis (Acute)	1	—
Dacryocystitis (Acute)	1	2
Dermatitis of Eyelids	—	1
Foreign Body on Cornea	2	—
Hordeolum (Acute)	3	2
Hordeolum (Recurrens)	3	1
Hypertrophy of Lids (Congenital)	1	—
Keratitis Marginalis	—	1
Keratitis Phlyctenular	4	4
Leucoma Adherens	1	—
Macular Retinitis	1	6
Macular Haemorrhage (old)	1	—
Optic Atrophy (Primary)	—	1
Optic Neuritis	1	—
Paralysis of Left External Rectus	—	1
Pigmentation of Sclera (Congenital)	1	—
Ptosis Congenital	3	—
Retinal Exudate (old)	3	—
Red Green Colour Blindness	1	—
Sclerosis of Lachrymal Puncta	1	3
Tarsal Cyst	1	5
	729	817
	1546	

‘All Infants’ Examination ” No. of children examined... 340

Total ... 1,886

“Glasses were prescribed for 900 children. Advice was given to parents whose children were suffering from the eye diseases mentioned in the classified list above. Cases were admitted into Hospital under my care for operation and treatment. The operations included those for strabismus, ptosis, congenital cataract, tarsal cyst, and dilatation of lachrymal puncta. Treatment cases included dacryoadinitis, dacryocystitis, hordeolum, keratitis and corneal ulcers.

"Many of the examinations carried out this year were by the request of the parents. This is very gratifying as it shows that the parents realise the value of these examinations.

"During the year I found eight children suffering from Phlyctenular Keratitis. It is fortunate that the number is so small because I do not know of any eye condition which is so discomforting to the child, so tedious in its course and so frequent in its relapses. It is no infrequent thing for a child suffering from this disease to be absent from school for periods ranging from three months to twelve. I have admitted several cases of this condition into Hospital and many forms of treatment have been applied, and in practically every case a severe relapse has occurred a few weeks after the child has returned home.

"In the course of my school work I was particularly impressed by the prevalence of the disease in congested areas and its almost entire absence in the country districts. Dr. Stocks has also noticed the peculiarity in the geographical distribution of this complaint. Phlyctenular Keratitis has received much attention from the medical profession; its causal factor however, is not known with certainty. A tubercular diathesis, vitamin deficiency, and uncleanliness have been attributed as causes. Its absence in country districts however, points to a method of treatment which will in all probability be fraught with most excellent results, namely, an open air life for the children afflicted.

"I would strongly suggest that some method be adopted whereby these children could be transferred to a suitable place in the country where they could receive adequate treatment for their ocular condition and at the same time a certain amount of education.

"In my report last year I advocated that the infant should receive an ophthalmic examination as soon as possible after admission to school. In 1927 I systematically examined in six schools the whole of the Infants' Department.

"A total of 340 children were examined, and of this number it was found that 55 were in need of a detailed examination."

Dr. A. V. Stocks:—

"The number of children wearing glasses was 140, or 2.7 per cent. of the routine inspections.

"The number of children with defective sight (who could not read better than 6/12 combined or 6/18 in one eye) was 367, or seven per cent. Ninety-four suffered from strabismus.

"It is unfortunately not uncommon to find that a child who ought to be wearing glasses has not got them at school and is in the habit of leaving them at home.

"Some Head Teachers and Class Teachers are sufficiently keen about the matter to check over a list occasionally. I would suggest that it is an easy matter to put in the register a small "G" opposite the name of those scholars who have glasses and ought to be wearing them; it would then be a simple matter for the teacher to occasionally check them from the register and to remind those who are careless or neglectful."

Dr. Mary D. Sheridan reports that *External Eye Diseases* were found in 1.7 per cent. of all cases, viz. :—46 boys, 58 girls.

"These were principally local inflammatory conditions (blepharitis, conjunctivitis, etc.) but I have included the following also under this heading for the want of a more accurate definition :—

	Boys.	Girls.
Nystagmus	1 ...	2
Ptosis	1 ...	1
Iritis (old)	1 ...	—
Congenital Cataract	1 ...	—

"The usual notice was sent to all parents, advising treatment, and in the more severe cases, immediate medical opinion recommended.

"*Squints.*

	Boys.	Girls.
1.9 per cent. of all cases ...	51 ...	63

"This number includes some children who already had spectacles, but were not wearing them when I made my examination. The parents are often very careless about obtaining spectacles, even when the Oculist has ordered them and the County Authorities have agreed to contribute largely to the cost. Covering treatment is seldom persevered in after the first few weeks, except by the very intelligent children. When operation has been advised as the sole remaining treatment for the squint, I have found only the more enlightened type of parent willing to co-operate.

"*Defective Vision.*

	Boys.	Girls.
8.9 per cent. of all cases ...	238 ...	287

"As before the girls show a larger proportion of defective vision than the boys—girls 10.3 per cent.; boys 7.4 per cent. Last year although the average for both was much the same, being 8.7 per cent., the difference between girls and boys was even more marked. Girls 11.9 per cent.; Boys 5.1 per cent. I have worked out these numbers on *all* routine examinations. If only "Leavers" and "Intermediates" are considered, the average numbers will probably be increased, since it is in these later groups that visual defects are most usually found. But since I have tested with the type every Entrant who could read enough letters, and with pictures those who could not, I think that only a few myopic defects at any rate have been missed among infants. Hypermetropic defects, of course, are much more difficult to diagnose when only type is used.

"Some parents are criminally careless about having visual defects treated. Sometimes they definitely refuse to obtain the spectacles, and very frequently when these have been provided by the County they do not trouble to see that the children wear them, and when they are broken seldom take them to be repaired. Occasionally they refuse all treatment whatever. The parents of one child suffering from severe progressive myopia refused even to allow the Oculist to examine their child, although he made a special journey to see them, and explained that there was danger of complete loss of eyesight later if the child did not have immediate treatment."

"*Blindness.*—Severe defects of vision are quite frequently seen, generally due to progressive myopia, but these I have included in a later section since they still retained sufficient eyesight to be able to guard themselves from common street dangers, etc. There were, however, two very serious cases :—

	Boys.	Girls.
Totally blind	1 ...	0
Partially blind	1 ...	0

"The first was a *child (6 years)*, who had lost one eye as a result of accident, and the other from sympathetic ophthalmia. The parents were of very low class intelligence and I had the greatest difficulty in persuading them that the child could not possibly be allowed to live as he was doing. He was taken out of bed—a bunk in a caravan—for me to see. It was after ten o'clock in the morning and my visit had roused the family from sleep. The children were in bed wearing all their clothes except their boots. The poor blind boy looked like a wretched little plant that had been grown in a dark cupboard, he was so frail and anæmic. I doubt if he was ever taken out-of-doors. He was the most pathetic sight imaginable. The parents told me flatly that they would not consent to his going away unless we paid *all* the fees, and the child was sent home *every* week end. Considering the father was out of work, and the school in Liverpool, this last demand was preposterous. I did my best to point out their duty to the child, but I understand from the School Attendance Officer that it was some time before they would grant their gracious permission for the child to go away, as they objected to paying 1/- a week towards the £75 per annum that the child was to cost the County Council. The child is now at the Blind School.

"The latter case was a boy whose defect was due to old keratitis during infancy."

Dr. Jenny C. King states that :—

"Out of 986 Intermediates examined 105 or 10.5 per cent. were suffering from defects of vision. 4.2 per cent. boys, 6.3 per cent. girls.

"Out of 875 Leavers examined 119 or 13.6 per cent. were suffering from defects of vision. 6.2 per cent. boys, 7.4 per cent. girls.

(These figures are for 6 months only).

"The percentage is larger in the case of girls.

"It is strange that the percentage varies greatly in different schools. In one Council School out of 49 Leavers examined 14 were found to be suffering from defects of vision. This must either be associated with the school lighting or the work done by the children. I have found that short sight is commoner in the better built schools—Council and Central. This makes the question of faulty school lighting hardly possible and points to the real cause being in the work done by the children.

"Although there is a lot of needlework and handwork done in these schools, that might cause a certain amount of eye strain; most of the damage is undoubtedly done in the homes.

"Children attending Council and Central Schools are usually of a better class than those attending Church Schools. In the poor home no time is given to reading, but in the better class home the girls especially are more inclined to be studious. Many mothers have complained that they cannot stop their girls from reading at night and after the home work (this is sometimes heavy in the case of children working for scholarships) is done, they continue reading from cheap books with bad print in a poor light (candle or lamp.)"

Ear Diseases and Deafness.

The numbers here are not large. They include 105 cases of deafness, 138 cases of ear discharge and 54 cases of other disease of the ears.

Nose and Throat Affections.

Under this heading we have the following noted :—

Enlarged tonsils only	350	cases.
Adenoids only	327	,,
Both enlarged tonsils and adenoids	579	,,
Other affections of nose and throat	111	,,
Total	1367	,,

In view of the fact that certain affections of the nose and throat may lay the foundation for the development of "rheumatism" and heart disease these figures are disquieting. They show too the necessity for the scheme your Committee adopted some years ago for the treatment of these conditions.

The following are extracts from the reports of the Assistant Medical Officers.

Dr. Mary D. Sheridan reports that *Enlarged Tonsils and Adenoids* were present in 7.7 per cent. of all cases examined.

She adds :—"I have grouped together all cases of tonsils and adenoids whether they existed singly or together. This is one of the most common defects found among elementary school children—particularly in the lower forms. All the usual associated symptoms, nasal obstruction and mouth breathing, deafness, frequent sore throats, frequent colds, dulling of intelligence, etc., were found in varying degrees of severity. All the cases were advised to have the operation for removal of tonsils and adenoids performed as soon as possible. Parents are sometimes very averse to agreeing to operation, and they will quote some cousin's, husband's, sister's child who once had its tonsils removed and "was never the same afterwards." The only answer to that story is to show the dissenting mother two or three children who have improved very much since operative treatment, and if possible to introduce her to the children's mothers, who will bear out our report. A few cases of hypertrophied tonsils following the "guillotine" operation were seen, but these become less frequent now that the operation is usually performed by experts, and enucleation the most common process employed.

"*Mouth Breathing* (without nasal obstruction).

	Boys.	Girls.
.9 per cent. of all cases ...	34 ...	23

"I made a note of these cases because it seemed to me that there was a large number of children who did not benefit from the operation for removal of adenoids as much as they should have done. Their physique was improved, they caught fewer colds, and their deafness was less, but they still habitually breathed through the mouth, so that the adenoid facies persisted giving the child a most stupid and unattractive appearance. In nearly all the cases above noted the child had already had the adenoids removed; and in every case there was a clear air passage which the child could use if it made the effort. I think that "handkerchief drill" and daily breathing exercises should be insisted upon in every school, and when the operation is performed the parents should be told that mouth breathing will certainly persist if the child is not corrected from the very first, since a bad habit of breathing, once formed, is exceedingly difficult to eradicate."

Dr. Jenny C. King reports as under :—

"862 Entrants—88 or 10.2 per cent. required operation for tonsils and adenoids, 5.2 per cent. boys, 4.8 per cent. girls.

"986 Intermediates—73 or 7.4 per cent. required operation for tonsils and adenoids, 4 per cent. boys, 3.4 per cent. girls.

"875 Leavers—52 or 6 per cent. required operation for tonsils and adenoids, 3.2 per cent. boys, 2.8 per cent. girls.

i.e.—7.8 per cent. of all cases.

"The number of cases of enlarged tonsils and adenoids varies greatly according to the district. In one school in the Altrincham area where 120 entrants were examined it was found that 14 per cent. required the operation for removal of tonsils and adenoids. In another school in Cheadle where 73 entrants were examined 18 per cent. required the operation. And there are some schools where only one case of enlarged tonsils and adenoids is found among 20 or 30 entrants."

Defective Teeth.

There were 1,868 children discovered at routine medical inspections requiring special attention to their teeth.

In addition to this the School Dentists reported no less than 12,917 as requiring treatment out of 17,967 inspected—an extremely high percentage.

"Dr. Mary D. Sheridan records the fact that decayed teeth were discovered in 11.2 per cent. of all cases examined, viz. :—356 Boys, 308 Girls.

"In calculating this percentage only those children who showed *three or more* carious teeth have been counted. If those who had only one and two decayed were included, the numbers would be, I should think, up to 60 or 70 per cent. This is in very striking contrast to the numbers in the secondary schools. The general condition of the teeth, however, is improving, especially in those areas where the dentist holds routine inspections. The senior girls are usually fairly enthusiastic in following up their teachers' advice on dental hygiene, but their brothers are not nearly so particular about the toilet of the mouth. In the infant schools dental care depends very largely on the teacher. In Frodsham Five Crosses Infants' School I was struck by the number of well kept, healthy teeth among the babies, and the Headmistress told me she had introduced Gibbs' "Ivory Castle" scheme in the school, with great benefit. A habit formed so pleasantly in the kindergarten will not readily be forgotten in later life. Some parents still believe that it is unnecessary to look after the temporary teeth, but fortunately this is a matter upon which the mothers are becoming increasingly more enlightened.

Dr. Jenny C. King reports as under :—

"862 Entrants—81 required attention = 9.4 per cent.
986 Intermediates—95 required attention = 9.6 per cent.
875 Leavers—70 required attention = 8 per cent.

(These figures are for six months only).

"It is quite simple to tell the schools to which the dentist pays regular visits. In some schools the teachers have an "Ivory Castle Campaign," where the children are encouraged to brush their teeth daily, and where this is carried out in conjunction with visits from the dentist it is a treat to look in the children's mouths.

"In other schools, however, the teeth are in a disgraceful state. In such schools many parents cannot afford to pay a dentist's fee, but there are many parents who do not consider the care of the teeth at all necessary. Their own mouths are in a horrible condition, and they have managed to live all right and cannot see why their children should not manage equally well. With regard to the importance of the care of the teeth the poorer classes require considerable education."

Mr. S. O. Stewart reports as follows :—

"*Prevention of Dental Disease.*—I am very pleased to be able to report, that 3 Head Teachers out of a possible 90, or 3.3 per cent., have taken up a scheme to encourage the daily toothbrush habit amongst the children under their care, and to foster the child's daily interest in its own teeth, and I hope that the lead thus given will soon be followed by other teachers in the South of Cheshire, as is being done in the

North. If this movement spreads, which I hope it will, I consider it will be a tremendous help towards the *prevention* of dental disease, and will educate the child in a dental pride which at present is almost entirely lacking.

"*Dental Inspection and Treatment.*—Parents appear to be under the erroneous idea that it is quite sufficient to wait for say 12 months between the Dental Officer's visits, without seeking any further dental examination, and treatment if found necessary, for their children, during this period.

"This impression, amongst parents, should be counteracted as much as possible, as all authorities agree, that a mouth, especially a child's, which is prone to *rapid* caries, should be examined at least three times a year. The whole crown of a tooth can be lost in 12 months through *rapid* caries."

Mr. Leonard Alley remarks :—

"I am convinced that a right attitude of mind and pleasant associations are necessary to make the proper care of the mouth a habit of daily life. Unless the children have a knowledge of at least the simplest facts regarding their teeth and have learned the importance of keeping the teeth clean—they take little or no interest in cleaning them. The mere repetition of an act through compulsion does not fix a habit unless the act is interesting, and it is only by giving the children a knowledge of their teeth and by making their care attractive and interesting that we can fix the habit of cleanliness in them.

"I have therefore attempted to introduce the Ivory Cross League Scheme into the eighty-three schools in my district, viz., the Runcorn and Northwich Urban and Rural Areas. In this way I am hoping to teach prevention of tooth troubles and thereby remove all fear of the dentist—for I am sure that the dentist who can prevent the tooth trouble for the child is looked upon as a greater friend than he who makes the sole task one of remedying it. On the whole the children are wonderfully brave little patients and give very little trouble. The teachers give their utmost co-operation and in a great number of cases show a keen interest in the work."

Mr. E. S. Butt reports as under :—

"It is possible at the end of this year to judge better the result of previous work, the interest shown by the staffs of the various schools, and the increased interest of the parents. The chief difficulty to overcome is the successful education of the children themselves in dental hygiene. Very often treatment on a child is rendered practically useless by a year's neglect in cleanliness. At many schools the children are now being taught to take a pride in having their mouths clean, and do not regard it in the light of a necessary duty, to be escaped from whenever possible. This is largely due to the interest shown by the teachers. The number of parents, also, who believe that a 'gumboil' is quite natural, and not associated with sepsis, is lessening. It is interesting to note that the state of the teeth is perceptibly worse in the higher areas.

"There have been a few cases with outstanding features. Two heart cases with septic teeth were operated on successfully. Quite a number of cases were treated where septic roots were actually protruding into the cheek, leaving a deep highly inflamed pocket.

"I wish to thank the staffs of the various schools for their kindness and co-operation, which help enormously in such a scattered area."

Heart Disease.

Actual disease of the heart is reported in 245 cases and disturbance of function in 32 cases. The following remarks of one of the Assistant Medical Officers (Dr. Mary D. Sheridan) are of interest.

"In this section I am dealing only with *organic* heart conditions. Those children who had *functional* murmurs are included later under the 'Normal Children Requiring Treatment.'

"Severe heart disease may be *congenital* or *acquired*. Both types are seen in school. Total 36, or .6 per cent.

	Boys.	Girls.
Congenital	9 ...	6
Acquired	8 ...	13

Congenital.—Only one of these cases was cyanosed, and that one not very markedly. Most of them, however, had a malar flush. One child was a Mongolian Imbecile, and one had associated right talipes. In about four of the cases the parents had never suspected the condition. The others had been previously diagnosed by the family doctor.

"*Acquired.*—I enquired carefully into the history of the 21 children suffering from severe acquired cardiac disease, and found that in no less than 16 of the cases the condition was subsequent to rheumatism in one of its forms. Of the others, one girl gave a history of scarlet fever immediately preceding the discovery of the murmur, another presumably followed measles, and a third was the result of "poisoned heart" at 5 years old. This one may possibly have been rheumatic. The remaining three gave no history of any illness that could be related to the heart condition, although one had had an attack of pneumonia. All the cases had a satisfactory state of compensation. The child in Willaston whom I found last year in training for the school sports had improved very much with rest from drill and games. These children are usually among the most intelligent in school, and it is always better to explain to the parents and the teachers that there is a limit to their physical powers of endurance. Some parents, of course, go to the opposite extreme and ask me to exclude their children from school when I have explained the presence of heart weakness. In my opinion the excluding of a cardiac case from school for long periods after all the acute symptoms have disappeared, and the child is up and about again, is a bad policy. To begin with the child will never be able to earn its living by physical effort, and can only rely upon the knowledge acquired in school for its very existence later, and secondly the child who is given a holiday for a year or so usually spends his time running wild in the streets or playing in fields round about his home, putting considerable strain on his heart, and for the most part spending his day completely outside the range of his mother's observation. In school at least he is at rest, and under continuous supervision from the teacher.

"All these cases were advised to cease drill, and games, and to keep under constant medical supervision. Those children who were old enough to understand were warned of the dangers of their state. In every case the child's parent or guardian was interviewed."

Tuberculosis.

No definite cases of the pulmonary (lung) type were discovered, but 24 suspected cases were reported to the District Tuberculosis Officers to be seen in consultation with their own practitioner.

On this subject Dr. A. V. Stocks remarks :—

"Fifty-one cases cases were observed at the routine inspections, of which a certain number were latent. These were distributed as follows :—

Glands	29
Abdomen	12
Skin	3
Spine	3
Hip	2
Knee	1
Lungs	1

"Nearly all these cases were already under supervision; but two cases of tubercular abscesses in the neck were discovered at the medical Inspection and both were sent at once to the District Tuberculosis Officer. The parents as a rule are so terrified of the very name of this scourge that they seize every opportunity for treatment. Where attendance at clinics, etc., had become lax, I recommended an immediate return.

"Several parents told me their children had had 'consumption of the bowels' in infancy, but on examination the children showed no further evidence of the disease. About .5—1 per cent.—of school children show scars in the neck of old successful gland operations; these have possibly been tubercular."

Deformities.

The conditions specifically referred to in my returns were :

Rickets	82 cases.
Spinal Curvature	85 ,,
Other Forms	62 ,,

Your Committee has recently approved a scheme for the establishment and extension of After-care Clinics for such cases and this, coupled with Institutional Treatment (with which we are abundantly favoured) should go far towards the early alleviation of all crippling conditions. This scheme is coupled up with the Council's Maternity and Child Welfare and Tuberculosis provisions.

Dr. Mary D. Sheridan reports as follows under this heading :—

"*Cripples.*—Nearly all these cases were orthopædic in nature.

Total.	Boys.	Girls.
33, or .6 per cent. of all children ...	16 ...	17

"The causes in order of frequency were these:—

	Boys.	Girls.
Infantile Paralysis.		
Left Leg	3	3
Right Leg	1	4
Both Legs	3	—
Left Arm and Leg	1	—
Right Arm	1	1
(Birth Palsy) Right Shoulder	1	1

"All these children were wearing irons or splints and in constant attendance at Orthopædic centres.

	Boys.	Girls.
Developmental Deformities.		
Severe Scoliosis	1	1
Congenital Dislocation of Hip	1	1
Congenital Talipes (in irons)	1	1
Traumatic Deformities.		
Ankylosis left elbow (fracture)	1	—
Right leg amputated	1	—
Old Osteomyelitis thigh (in irons	—	1
Nervous Diseases causing impairment of muscular power	2	1
Gross Rickets (curved spine, knock-knee, square head, pigeon chest, bronchitis, mental dulness	—	1

"The new County Orthopædic Scheme has proved of great benefit to these children. New irons have been provided in several cases, and operations performed at Leasowe, resulting in very definite improvement.

"*Other Causes of Physical Defects.*—These were not numerous. I have noted the following conditions:—

	Boys.	Girls.
Severe Asthma	1	3
Chorea (very severe)	—	1
Spleno-medullary Leukaemia	—	1
Albino	—	1

"*Other Deformities* not serious enough to cause physical defect were as under:—

	Boys.	Girls.
Developmental.		
0.5 per cent. of all cases	18	14

“These are not very common. I have noted the following in order of frequency :—

	Boys.	Girls.
Cleft Palate (untreated)	1	5
Undescended Testicle	5	—
Inguinal Hernia	2	1
Hare-lip	1	1
Arrested Growth	2	—
Hydrocephalus	2	—
Cysts—right shoulder	—	1
,, neck	—	1
,, eyelid	—	1
Phimosis (severe)	1	—
Torticollis	1	—
Slight Talipes	—	1
Scoliosis with wasted shoulder muscles	1	—
Double congenital dislocation of hip (walks well)	1	—
Lipoma of shoulder	—	1
Papilloma of lip	—	1
One eye much smaller than the other	—	1
Swelling of Clavicle	1	—

“This last case was rather interesting. The swelling, which was situated in the middle third of the clavicle resembled callus formed after a fracture. But the mother was positive that there had never been the least injury to the bone, and that the lump had slightly increased in size during the last month or two. I recommend that an X-Ray photograph and a Surgeon’s opinion lest the condition should be a new growth, although I think callus was the more probable explanation.

Rickety Deformities.	Boys.	Girls.
1.7 per cent. of all cases	57	47

“These are fairly frequently seen. Some children show more than one rickety deformity, so that the sum total of all *deformities* would work out at a larger average than that given above, which only represents *children* showing other evidence of rickets.

“The commonest deformities seen are these (with numbers in each case) :—

	Boys.	Girls.
Pigeon Chest	47	30
Square Head	13	8
“Pot-bellied” Abdomen	5	3
Bow-legs	7	2
Knock-knee	—	8
Kyphosis	—	1
Scoliosis	—	1

"The narrow 'pigeon chest' most commonly met with, is nearly always associated with a history of frequent 'chesty colds.' Rickety spines are rare; bow-legs and knock-knees are not common, since mothers now-a-days usually avail themselves early in the child's life of the excellent orthopædic facilities of the neighbourhood. Ignorant and stupid mothers who refuse treatment are, however, still met with. I saw a little girl in one town who was very badly bowlegged. Her mother was not in attendance, so I sent her a message. She came after some delay, but obstinately refused to consider having treatment for the child, or even to obtain an expert opinion. She told me aggressively that 'bow-legs ran in their family.' When I pointed out that the girl would blame her afterwards when she realised that her ugly deformity was entirely due to her mother's obstinacy, the woman replied triumphantly that she had bow-legs herself, and she never blamed *her* mother because they were not straight.

"Welfare Centres for babies, and supervision by health visitors have done untold good in preventing those gross rickety deformities we used to see in Hospital Out-Patient Clinics.

"*Postural Deformities.*—1.3 per cent. of all cases.

	Boys.	Girls.
Round Shoulders	27 ...	21
Postural Scoliosis	6 ...	13

"These were mostly seen in weakly, ill-nourished, or overgrown children. Exercises were advised and general tonic treatment.

"*Flat-foot.*	Boys.	Girls.
Severe forms of flat-foot were rare ...	5 ...	6

"Exercises and 'built-up' boots were advised. Flat-foot is more commonly seen in the secondary schools; this is probably because it usually develops late in adolescence."

Mental Deficiency.

Of the feeble-minded children not notifiable to the Local Control Authority 21 are attending Certified Schools for the mentally defective, 324 are attending Public Elementary Schools and 37 are at no school or institution. The last two groups are under regular supervision by the Health Visitors. Seven feeble-minded, 18 imbeciles and 5 idiots were notified to the Local Authority under the Mental Deficiency Act during the year.

Dr. Mary D. Sheridan submits the following interesting report :—

"*Mentally Defective.*

Total.	Boys.	Girls.
94 in all, or 1.5 per cent. ...	... 52 ...	42

"These I have divided as before, for convenience, into three groups :—

"*Grade* I.—(Feeble-minded), comprises those who, although definitely defective mentally, are yet amenable to discipline and teaching; whose scholastic attainments, necessarily elementary, were yet showing signs of improvement; and who, in the future, may live happy and fairly useful lives, if kept under friendly supervision.

Total.	Boys.	Girls.
54 ...	32 ...	22

"In cases of mental deficiency, whenever possible, I made notes on the family and personal history. In many cases the history was particularly interesting and valuable. These are a few of the children in this group.

"(1) *Two brothers* (aged 13 and 6 years) had an epileptic father. There were nine other children in the family more or less normal.

"(2) *Boy* (10 years) had an attack resembling Status Epilepticus in school one day. His brother and sister (also at the school) were Grade I. Defectives.

"(3) *Boy* (5 years). This child's history was especially interesting. The father was in a Mental Hospital. The mother, an excellent, sensible, hardworking woman, kept the family. The eldest child, a boy, was a hopeless imbecile and has been in Lancaster Institution for several years. The next children—twin girls, were at school. One was very dull and backward, but took trouble to follow the lessons; the other was definitely mentally deficient. Her speech was very defective (although she was nearly 11 years) and her vocabulary limited. Her scholastic attainments were most elementary. The fourth child was the one under consideration. His speech, too, was rudimentary, his expression fatuous and contented; he knew very little. When I asked him his age he answered 'Five, five, five, five.' This repetition was one of his peculiarities. He showed himself willing to learn, but had no power of concentration.

"(4) *Boy.* Was one of a family who were all dull. I interviewed the mother. She was one of those truculent, obstinate and unreasonable women, with whom it is quite impossible to converse amicably or coherently. It was equally impossible to obtain a satisfactory account of any of her children. The Headmaster had occasion in my presence to bring to her notice the fact that one of her boys was continually late for school. She did not attempt to give a reason, or to question the child, but immediately flew into a rage, and said she would send all her children to another school. Her own mentality was decidedly sub-normal. The boy himself had improved very much in school, where he had been given individual attention, and encouraged in every way; his mother, needless to say, took all the credit for this to herself, though she could not explain why she should do so.

"Other cases were interesting as being related to physical or other defects:—

"(5) *Boy* who had such defective vision that it was impossible to gauge his actual mental defect.

"(6) *Boy.* Was very deaf and his speech consequently defective; his mentality was much retarded. I have put him in this group because he has improved so very distinctly since he came to school and associated with other boys.

"(7) *Girl,* aged 12, was born on a barge and had lived a very nomadic existence. She had attended school for one year only, but taking her necessary ignorance into account, her mentality was still poorly developed for her age.

"Other children worthy of special note were:—

"(8) *Boy* with rheumatic heart disease.

"(9) *Girl* whose defect is a result of old encephalitis lethargica.

"(10) *Boy* who on being reproved at home for some trivial offence walked to Chester (a distance of 20 miles) where he was found and kept in custody until his parents came. He had no plans for his future when he went. He walked away simply and solely with the intention of annoying his family.

"*Grade II.—Imbeciles*, children of a lower level of intelligence than Grade I., who can be taught very little in the ordinary elementary school, but who, for the most part, give very little trouble. They will probably be unable later to earn their own livings, but can usually be trusted to safeguard themselves from common dangers of traffic, fire, etc.

"The most interesting cases in this group are these :—

"(1) *Boy* (6 years) who was one of family of 10 who were all more or less sub-normal mentally, several of the older ones being definitely defective. The parents were apparently normal.

"(2) *Girl* (aged 9 years) who has never spoken, but who seemed so attentive and interested when spoken to, that it was difficult to believe she was deaf.

"(3) *Girl* (aged 13 years). A very well-grown, remarkably pretty girl, who appeared to be much older than she really was. The parents were offered the chance of a vacancy at a Special School, but were unwilling to allow the child to go. Mentally she was about 8 years old. The problem of her future is a particularly anxious one.

"*Grade III.—Idiots.*—These children have quite the lowest form of intelligence and may be said to be suffering from Amentia. Most of them are too bad even to be in school; the majority I have visited in their homes at the request of the local School Attendance Officer, or because of information given me from our own County Office. Little can be expected in the way of improvement from these cases. Even Special School treatment would probably be useless, since, as a class, they are ineducable.

Total.		Boys.		Girls.
18	...	10	...	8

"Interesting cases in this group are these :—

"(1) *Boy Mongol* (aged 9 years). This child's history was most interesting. He had never been to school, partly because of his mental state, and partly because he was crippled after an attack of Infantile Paralysis during early childhood. He was of very low mentality, and could scarcely articulate. His facies, hands, etc., were typical. His mother was 33 years old at his birth. There were three other children all older and normally intelligent. The eldest had passed the matriculation examination at the age of 15.

"(2) *Girl* (aged 9 years), was a Mongol with congenital heart disease.

"(3) *Boy* (aged 10), whose low grade intelligence, and badly paralysed limbs were the result of old Infantile Paralysis.

"(4) *Boy* (aged 7), whose idiocy was due to epilepsy.

"(5) *Boy* (aged 7), who could not speak a single word, although certainly not deaf. He did not understand enough to take a penny I offered him, although his baby sister (aged 2) grasped it delightedly when I held it out. He did not seem to know his own people. His mother was a very young woman (she had been only about 17 when he was born) and did not seem of very high mentality herself.

"(6) *Girl* (aged 7), a bad case of Cretinism with severe rickets and anæmia. She had only just been sent to School, and was not fit for attendance. She looked about 4 or 5 years old, and was mentally and physically very retarded for her age.

"(7) *Girl* (aged 13). This child had attended school pretty regularly, but was very backward mentally. She could neither count, nor recognise a single letter, and her speech was limited to a dozen or so of the simplest words. Physically she was well-grown and bonny. She was an illegitimate child and her uncle is in a Mental Hospital. Even now she is sometimes rather troublesome and undisciplined. In a few years she will require definite restraint.

"(8) *Girl* (aged 13). This child is practically totally deaf. She can only say a few words, and is not nearly so bright or quick as the child described in Group II. She is, however, clean, tidy and very quiet.

"A child whom I classed among the Mental Defectives last year (a girl aged 7)—a crétin who had received treatment and who had been very well taught and understood in school) is now so nearly normal that I can no longer place her among these children. She read perfectly for me an unseen passage from a story about St. George and the Dragon, and she could give me the outline of other stories she had read in class. At the end of our interview I gave her a penny, and asked her what she meant to buy, since this question usually gives one a very clear notion of the child's sense of values. To my utter amazement she said briefly, 'I'll save it.' It appeared there was a Penny Bank scheme in the school. Surely a crétin who has arrived at the stage of understanding the value of saving her pennies can no longer be classed among the mental defectives!

"Special Classes.—Special classes for mentally defective or conspicuously dull and backward children are needed in the urban areas—for instance, New Ferry, Ellesmere Port, and Hoylake and West Kirby—since at present Special Schools in these places are not feasible. Grouped into small classes under a specially trained teacher the children would be able to have more individual attention than is possible in the ordinary school. The teachers in the ordinary schools usually take great trouble with these children, and often one is amazed at the progress made, especially when one considers that the same teacher is responsible for training the brilliant scholarship winners, and the mediocre 'average' child at the same time. But even more progress could be made in special classes and the teacher in the ordinary school would be spared the burden and the responsibility of preparing these defective children for their future struggle for existence.”

Treatment.

Your Committee will find full details of treatment rendered to school children in the several Tables at the end of this Report. Briefly summarised the important figures are as under :—

Blind children attending Certified Schools or Classes	22
Deaf children attending Certified Schools or Classes	31
Mental Defectives attending Certified Schools or Classes	21
Epileptics attending Certified Schools or Classes	4
Tuberculous children at Sanatorium Schools or Open-air Schools	79
Delicate children at Sanatorium Schools or Open-air Schools	82
Crippled children at Hospital Schools	5
Minor ailments treated	3020
Children provided with Spectacles	1368
Nose and Throat Diseases treated	1001
Dental Defects treated	6599
Dental Defects re-treated	1404

These figures shew that the school children under your Committee's charge are being well cared for.

National Society for the Prevention of Cruelty to Children.

Your Committee are indebted to the above Society for their help in regard to difficult cases, and I must acknowledge the tact and courtesy shown by the various Inspectors whose Reports I think might this year be shown as submitted.

East Cheshire Branch.

“The following is the list of cases referred to us by the County School Medical Officer and Officials during 1927 :—No. of Cases, 8; No. of children affected, 20; Classification—6 general neglect, 1 ophthalmia and neglect, 1 tonsils and adenoids and neglect.

"All the cases were warned and supervised and have ended satisfactorily. No prosecutions took place. They were reported as follows:—Health Nurses per Chester, 4; School Attendance Officer, 2; Head Master, 1; Head Mistress, 1."

A. MANNING,
Inspector.

Runcorn Branch.

"During 1927 ten complaints were dealt with, received from:—Office, 4; Health Visitors, 2; Teachers, 4. All were classed under the heading of general neglect, vermin and sore heads. In each case the parents were warned and cases kept under supervision; some still being under supervision.

"The number of children dealt with = 19; Boys 11, Girls 8. Six out of the ten cases are closed satisfactorily."

Northwich Branch.

"The following 42 cases have been reported to the Society by the Education Authorities, Health Visitors, etc.:—Head Masters and Head Mistresses, 22; School Attendance Officers, 3; Health Visitors, 14; Dr. Meredith Young, 3; Total, 42. All cases were classified as neglect.

"Nine cases of children suffering with defective vision recommended spectacles by School Oculist, parents taking no steps to obtain them, in most cases County paying the cost. Warned and spectacles obtained.

"Four cases children excluded from school suffering with sores not receiving proper care and attention. Warned and instructed parents to attend School Clinic for treatment, cured in 48 hours.

"Ten cases of children with verminous heads, some cases excluded from school. Parents warned and given instructions how to treat the heads. One case prosecuted. Both parents bound over. Children taken to Workhouse.

"Nineteen cases of children sent to school in a dirty condition, poorly clothed, badly shod. Parents warned and footwear provided in most cases out of Boot Fund and Council of Social Service."

A. W. MADDOX,
Inspector.

Crewe Branch.

"Only one case was reported in this Branch by your Officers for year 1927, viz.:—A man living in a country district with his wife and three children ages 10, 8 and 5 years, was out of work. He was suffering from Bronchitis and his wife was also ill. Children were clean, fairly nourished and fairly clad, but boy had no boots to wear, and he was supplied by School Attendance Officer with a pair of clogs.

"There was practically no food in the house and no money to get any. I at once went to the Relieving Officer and he arranged for the doctor to visit.

"I purchased sufficient food for the family and advised them to go into the Infirmary for treatment.

"Later the Doctor and Relieving Officer visited, the Doctor advised Infirmary treatment, and although the Relieving Officer had offered out-relief for a time they decided to go into the Institution, where they remained until they were all well and man fit to work."

W. Basil,

Inspector.

Stockport and District Branch.

"During the year 1927 the Stockport and District Branch investigated five cases concerning the welfare of 15 children, of whom six were boys and nine were girls.

"There was one infant under the age of one year.

"Of the offenders involved three were males and three were females.

"There was one case due to drink.

"The nature of the cases were as follows:—neglect, 4; beyond control and neglect, 1.

"The cases were dealt with by warning and supervision in four of the cases. In the other it was considered advisable in the interest of a girl aged 12 years owing to the condition of the home, lack of control, and immoral tendency of the girl to place the child under the control of the Guardians, and this was arranged with the consent of the father.

"The cases were reported as follows:—Health Visitor, Marple, 2; Health Visitor, Hazel Grove, 1; Teacher, Cheadle, 2. These cases were not of serious nature."

S. A. Chaddock,

Inspector.

Physical Training, 1927-1928.

"In the report for 1926-1927 the hope was expressed that Physical Training Classes for Teachers would be held, in course of time, in every District in the County area. During the year 1927-1928 classes in Physical Training have been held for the teachers of seven districts, short Courses in Swimming Instruction for the teachers of four districts, and a short Course in Folk-dancing in another district. These classes have been well attended, and those teachers who did the practical work showed that spirit of enthusiasm and desire to give of their best, which, when present in a class, makes the lesson a pleasure both to teacher and pupils.

"It is pleasing to note that on the whole a steady improvement has been maintained in every branch of the work. Formal movements have improved in vigour and in precision, and more attention is being paid to marching and to the general activity group of the table, though this group still lacks variety, and is too often represented merely by a game. The only remedy for this lack of variety is thoughtful preparation by the teacher, so that every detail is carefully planned, and waste of time is thereby avoided.

"There has been a further increase in the number of schools in which provision is made on the time table for Organised games, Folk-dancing and Swimming, which is a sure indication that the 'drill' of former times is being developed into the modern, many sided subject, Physical Education, with all its wonderful opportunities for training in citizenship.

"*Swimming.*—There has been an increase in the number of girls attending the Baths, and an increase in the number of Certificates awarded. 140 girls were successful in the advanced Test, and 242 qualified for the Elementary Certificate. Some of the teachers entered girls for the awards of the Royal Life Saving Society, and Elementary and Proficiency Certificates were gained by the successful candidates. It is hoped that the teachers will carry on this very important part of the work after the very encouraging start made by a few teachers this year

"The percentage of 'Learners' is a little less than last year, but it is hoped that the adoption of the class-method of teaching will remedy this.

"Folk-dancing.—This branch of Physical Training has made great progress. In addition to an increase in the number of schools taking this subject it has been very pleasing to note a general raising of the standard on dancing in those schools which have practised it for some time. This is due partly to the increased facility given by practise, but mainly to two other factors :—

"(1) More Teachers have attended classes in folk-dancing, and have therefore become better teachers because of their increased knowledge.

"(2) Two of the annual Musical Festivals have this year, for the first time, included a section for Folk-dancing, and many Teachers have entered their boys and girls for this section, and have entered in the true Festival spirit of welcoming an opportunity of obtaining expert criticism on their work, and also an opportunity for enlarging the experience of their children. Having entered for the Festival the teachers have naturally tried to train the children to do the chosen dances in the best possible style, and, with the idea of the Festival as a culmination, it has been easy to concentrate on two or three dances without loss of interest on the part of the children. This concentration on good style and correct performance has had a beneficial effect, and has led to the general raising of standard already mentioned."

M. Altham,
County Inspector of Physical Training.

"*General.*—The past year has proved one in which increasing interest has been shown in all branches on Physical Training. The value and necessity of the subject have been more fully realised by the teachers who now look upon the work as an essential to the physical and mental well-being of the children. Much stimulus has undoubtedly been given to the work by teachers' Classes which have been held in various centres in the County. The regular attendance at these Classes of many teachers has proved the interest taken in the work. The teachers themselves have testified to the enjoyment and benefit they have derived from actual participation in the exercises and games and they have carried their enthusiasm into the work in their schools. This has been proved by the increasing demands for playing-fields, the special efforts made to obtain Schools Sports funds, the greatly increased number of Swimming and Life Saving Certificates which have been gained, and the interest taken by many teachers in the work of Schools' Athletics Associations.

"*Physical Exercises.*—The standard of work in formal exercises shows general improvement, and lessons are much more interesting and enjoyable to the children than was the case a few years ago. Lessons now receive much more thorough preparation, the necessity for a teacher to refer to notes during actual lessons being a rare occurrence. The correction of faults should receive more attention in some classes in order to obtain the standard required in formal exercises Essentials of exercises are generally well known and consequently are well taught, but there is a tendency to pass over faulty fundamental positions which are taken for granted as being well known. Correct fundamental and starting positions for all exercises are essential. There is also a tendency on the part of some teachers to entirely omit some of the more difficult formal and activity exercises, and it should be understood that these exercises should receive their proper amount of attention.

"Exercises are now being performed with greater precision and the responses and general alertness of many classes is a pleasing feature of their work.

"As the result of demonstrations of indoor lessons, the value of classroom work has been more fully recognised, and very successful indoor lessons have been observed in cases where such work was previously entirely omitted when bad weather conditions made work out-of-doors impossible.

"*Organised Games.*—Organised games may be divided into two kinds, those played in the school playground and others played upon the playing-field. The value of the school playground for organised games is being much more fully appreciated. The number of playgrounds which have been permanently marked out for team games is rapidly increasing, and it is hoped that all suitable playgrounds will, in the near future, be systematically marked out. The interest shown in minor team games, which have been previously strongly recommended, has been much in evidence. Teachers themselves have played the games in some districts, and their enthusiasm has been proved upon one occasion, by a very successful contest in several games by representative teams from two districts in the County.

"More variety in the games played has been a welcome feature and more attention is being given to games which demand good ball control, calling for skill in throwing, catching or kicking, and the marking of or breaking away from an opponent. These games have often proved more satisfactory than games played on the playing field as their organisation is much more simple, especially in cases where the team system is well developed, and definite progression is more readily assured. More definite coaching in advanced organised games on the playing fields is still essential.

"*Games Equipment.*—The supply of games material is generally satisfactory. Successful efforts to augment the supply in some schools have been made by the creation of a School Sports Fund, and co-operation with Manual Instruction Centres has resulted in the provision of much useful apparatus. In some schools more care and attention should be given to the care and repair of apparatus, especially in the case of footballs. Apparatus should always be available, and team leaders should be made responsible for proper attention to and repair of equipment.

"*Swimming.*—In no branch of physical training has progress been more marked than in that of Swimming, and very good results have been obtained. There has been a general improvement in the organisation of lessons and more definite instruction has been given on modern lines, resulting in a much improved style among the scholars. The percentage of boys who have learnt to swim shows a decided improvement throughout the County. The most marked success has been achieved in Life Saving work. The affiliation of all schools to the Royal Life Saving Society by the Education Authority and demonstrations of life-saving methods, have resulted in great interest being taken in this important work, both by teachers and scholars, and the successes gained at the close of the swimming season show a great increase. In all, 119 awards of the Royal Life Saving Society were obtained, 92 by boys and 27 by girls. The awards include two silver awards of merit, the first to be gained in the County Schools, 5 Hon. Instructors' Certificates, 5 Bronze Medallions, 35 Proficiency Certificates and 72 Elementary Certificates. Such results are a matter for congratulation to all concerned.

"*Schools' Athletics Associations.*—The Schools' Athletics Associations in various districts in the County have continued their good work throughout the past year. The organisation of inter-school and inter-district games has been very successfully carried out, and very successful swimming galas were arranged in two districts. This voluntary work of the teachers is much appreciated."

JOSEPH B. HALL,
County Inspector of Physical Training.

Secondary Schools.

Dr. A. V. Stocks furnishes the following interesting observations:—

"*Physique.*—The following table has been compiled from the measurements of 150 boys in the Secondary Schools in my area and may be of use in showing the average standard attained by these pupils as they reach school leaving age:—

Age.	Average height in inches.	Average weight in lbs.	Average difference between inspiration and expiration in inches.
15	64·3	108·4	3·4
16	65·4	117·7	3·4
17	66·9	131	3·4
18	68·3	149	3·75

"*Malnutrition and Debility.*—In his report for 1926 Sir George Newman makes the point that when faced with the delicate child it is not sufficient for the school doctor to merely enter the child as debilitated or delicate, which is a convenient label for ignorance, but that a real effort should be made to determine the cause, origin and character of the state of sub-normal health in which the child is found.

"One keeps this before one as an ideal, but in the limited time and with the limited facilities at one's disposal it is too often unattainable. One often wishes that more time were available for periodic re-examinations of such exceptional children at more frequent periods, at least every six months as a minimum.

"A frequent cause is general nurtural neglect in the child's home—insufficient sleep, inadequate or irregular meals and vitiated atmosphere.

'A typical example of this was a girl aged six in Runcorn, who was listless, anæmic, with dark rings under the eyes, and weighing only 38 lbs. Enquiries suggested lack of food and help was given by the Guardians in the shape of butter, eggs and milk for a time. At the re-inspection a year later the weight was 43½ lbs., but the child's condition was still unsatisfactory, and further enquiries showed that the girl's usual bedtime was 9-30. Strong representations were made and this year there is a great improvement in her appearance and her school work, her weight being now 48½ lbs. (she is eight years old), and I am informed she now goes to bed soon after six o'clock.

"As illustrating the effects of improved nurture the following particulars of children who have been away to West Kirby Convalescent Home may be cited :—

"M. H., aged 7, weighed 36½ lbs. ; had gained 1½ lbs. in previous 12 months. In 14 months at West Kirby gained 7 lbs.

"R. M., gained 8½ lbs. in 6 months.

"L. J., a girl of 13 from Northwich, gained 18 lbs. in 6 months, and 'has never looked back since, being in steady work now.'

"M. G., a girl of 12 from Halton, gained 19 lbs. in 16 months at West Kirby.

"E. L., aged 11, from Lymm, gained 11 lbs. in 6 months, and G. M., a girl from Northwich, put on 7½ lbs. in 14 months.

"Two cases of a different character bear out the same effect of a new environment.

"A boy, A. E. R., aged 7, suffering from debility gained 7½ lbs. in weight following a month at the seaside, and another Northwich boy suffering from suspected tubercular glands in the abdomen gained 14 lbs. in weight in a year as a result of an open-air life, including a camp at Rhyl with a boys' organisation.

"Where a change of air is not possible heliotherapy produces good results in some cases. I have notes of two cases. one a girl of 13 who gained 13 lbs. in a year under this treatment, and a girl of 6 suffering from rickets and malnutrition who went up from 32 to 36½ lbs. in 12 months with this treatment.

"Where the underlying cause is some particular disease such as rickets, tuberculosis or rheumatism a marked change in the general condition often follows treatment of the underlying cause. For example I have notes of a case, a boy, G. R., whose father died of tuberculosis. and who showed at the inspection at the age of 6 typical signs of pre-tubercular toxæmia and whose weight was only 37 lbs. After treatment and advice from the District Tuberculosis Officer extending over 20 months the boy had put on no less than 10 lbs. in weight. In a similar case in an older boy the gain in weight was 11 lbs. in just over a year.

"Sometimes the debility is the after result of acute recent illness; in other cases it is due to some factor such as adenoids or unhealthy tonsils.

"Removal of the latter leads to some remarkable gains in weight.

"A girl, A. S., aged 7, in Runcorn, had gained 1½ lbs. in the previous 12 months and in the next year following operation for adenoids, etc., she gained 11 lbs.

"Another girl, H. W., aged 7, at Grappenhall, put on 22 lbs. in 2 years following the operation, and a boy, T. H. S., the same age, at Lymm, gained 10 lbs. in a year after the operation.

"Many similar cases might be quoted."

The following is the report on Secondary Schools sent to me by Dr. Mary D. Sheridan :—

"The total number of girls examined was 363, and of these 113 (31 per cent.) were found to be in need of treatment, but chiefly for very slight defects. Except in a few cases of defective vision and of enlarged tonsils, and in three of the functional cardiac cases, the parents were already aware of the condition, and many of them were taking steps to have them remedied.

"*Clothing.*—For the most part the clothing was sensible and suitable to the school girls' daily life, being loose, warm, and tidy. Out of doors, the school cap, with a warm overcoat, strong shoes, and woollen gloves and stockings are worn. Indoors a drill slip with a blouse or jersey, and a blazer for cold weather is the obligatory uniform. The younger children all wear very sensible underclothing, but I noticed that among the older girls—who probably choose their own underwear—there is an increasing tendency to wear light, flimsy, artificial silk garments, suspended from the shoulders by slender ribbon straps, which leave the chest, the upper arm, and the shoulder-blades completely unprotected. This is probably due to the girl's fancy that such garments are more fashionable than the other sort, but in the cold November weather (at which time I inspected the Secondary Schools) they were distinctly inadequate.

"*General Condition.*—23 girls or 6.4 per cent. were found to be sub-normal in general physique. About ten of these were definitely anæmic. One had a chronic faecal fistula following an old abdominal operation, and was very thin, pale and underdeveloped. The pale, thin, nervous, over-strung girl, is quite a common type in the top forms of the Secondary School, where the pupils are working at highest pressure for the School Certificate and Matriculation examinations. The parents usually see that the girls take tonics when they need them, but they are apt to forget that the growing girl requires more sleep than an adult, and are lax about enforcing early bedtime. Many of them are so careless about this point as to allow the girls to attend late parties and visit theatres, etc., during term-time. The teachers' continual recommendations must always be unavailing if the parents do not co-operate by forbidding the girl to sit up late, or to wear herself out with social excitement.

"*Skin Diseases.*—These are uncommon. I noted four cases of Acne, one of Alopecia (already disappearing), and one unusual case of pigmented warts, which covered a large area of the right upper chest, armpit and neck. The condition had been present also on the face, but had been successfully operated upon, and skin grafted.

"*External Eye Disease.*—These were also unusual. I have noted :—

Two local inflammatory conditions—untreated.

One nystagmus—under treatment.

One marked exophthalmos, without thyroid enlargement—untreated.

Five squints, of which three were wearing corrective spectacles.

"*Defective Vision.*—This was the commonest defect of all, 75 cases being noted, or 20.8 per cent. Of these 47 cases (almost two-thirds) were already wearing spectacles. Those who had not seen the Oculist for some years were advised to re-visit him. The untreated cases were advised to obtain an expert opinion at once. Most of these girls were aware that their vision was not as perfect as that of their companions, but had taken no steps to remedy it. Only one or two suffered from headaches, which had been variously attributed to such conditions as 'overwork, puberty, or stomach trouble.'

(This percentage is higher than last year's, which was 13.2 per cent.)

"*Tonsils and Adenoids.*—Ten cases, or 2.8 per cent. needed removal. In about half the cases the child was under medical supervision. The others were recommended to seek advice. A large number of other children had already had the operation performed. (Note this percentage is exactly the same as last year).

"*Teeth.*—The condition of teeth in the Secondary when compared with the Elementary Schools is very satisfactory.

"Eighteen girls, or 5 per cent., had three or more than three teeth decayed. (This percentage is lower than last year's 8 per cent.—and is very distinctly lower than the 11.2 per cent. for the Elementary Schools).

"In addition 16 girls had two teeth decayed and 23 girls had one tooth decayed, so that altogether 306, or 83 per cent., had perfectly sound sets, though, of course, many showed 'stopped' teeth. These are surely encouraging numbers.

"Most of the girls attend their own Dentist every three or six months. I found no case of pyorrhœa, and no case of unbrushed teeth.

"*Heart Conditions.*—Ten girls had cardiac murmurs (2.8 per cent.) Of these four were probably functional, two being associated with anæmia. Of the other two girls one had been examined in her Elementary School at Port Sunlight by me in the previous May, when I examined all the candidates for swimming, and I had passed her then. Since I make it a rule to exclude all children with cardiac murmurs from swimming, the murmur could not have been in evidence then. Drill and games in these cases were strictly moderated.

"Six girls had definite organic murmurs. Two gave a history of Acute Rheumatism and one was congenital, but the other three gave no history whatsoever. In all these cases the parents were already aware of the condition and the girl was under supervision. All cases were well compensated, but drill and games were forbidden in every instance. (Last year's percentage was 4 per cent.)

"*Deformities.*—(1) *Organic.*—These are rare. I have tabulated the following :—

Absence of Forearm and Hand	1
Marked Knock Knee	1

"(2) *Functional.*—These are more common : 48 or 13.3 per cent.

Round Shoulders	17
Postural Scoliosis	9
Flat Foot	22

"All these cases were referred to the drill mistress, who prescribed corrective exercises.

"*Concluding Remarks.*—A scheme for providing hot dinners is in operation at all the schools save Runcorn and Lymm.

"I made a note last year concerning the wearing of drill pumps as uniform in school, and although all the drill teachers agree with me that the practice is disagreeable and objectionable (since it tends to increase flat foot) no school has yet taken steps to remedy the matter."

APPENDIX I.

Special Investigations and Reports.

No. I.

Special Investigations of the Relation between Thyroid Enlargement and Physical Development in Girls.

By Percy Stocks, M.D., D.P.H., Reader in Medical Statistics in the University of London and Medical Officer of the Galton Laboratory, and A. Vernon Stocks, M.B., D.P.H., Assistant School Medical Officer, Cheshire.

"In March, 1926, a research was undertaken with the object of discovering what relation, if any, existed between enlargement of the thyroid gland in girls between the ages of 10 and 15 years and various growth factors. This formed an essential part of a larger investigation in which one of us was engaged, the principal aims of which were to throw light on the following problems:—(i.) What is the best means of assessing the size of the thyroid gland and what standard methods of measurement are to be recommended for future work?

"(ii.) How does the form of frequency distribution of thyroid size in boys and girls change with increasing goitre prevalence?

"(iii.) Is there any essential difference between the so-called 'physiological enlargements' and 'goitres'?

"(iv.) How does the size of the gland change with age under normal conditions?

"(v.) How is it related to height and weight, rates of growth and development, muscular strength, blood pressure, pulse rate, colour of hair and eyes and proficiency in school work?

"(vi.) What differences are evident between boys and girls in these respects?

"(vii.) What effect, if any, has continuous iodine administration on the rate of growth in goitrous children?

"(viii.) Having deduced the relation of frequency distribution of thyroid size to goitre prevalence, to determine by sampling the effect of 'personal equation' on the recorded results of the School Medical Officers' survey of England and Wales in 1924, and thus discover what reliable conclusions can be drawn from these returns as to the geographical distribution of goitre.

"The complete results of this research have been published in two pages in 'Biometrika,' Vol. XIX., Parts 3-4, December, 1927, pp 292-353, and in the Quarterly 'Journal of Medicine,' No. 82, January, 1928, pp. 223-275, and it is only intended in this short report to give a brief account of the conclusions reached in the Cheshire measurements in girls which relate chiefly to points (i.), (iv.) and (v.) above. These measurements were carried out on some 450 girls in schools at Runcorn, Stockton Heath, Halton, Lymm, Northwich, Barnton, Weaverham, Knutsford and Altrincham. Since the prevalence of thyroid enlargement was of the order of 15 per cent. and only a limited time was available the method adopted in most of these schools was to measure without selection all the girls who presented visible enlargement of the gland, and then to measure a random sample of the 'normal' girls. In the mathematical treatment of the data so obtained the two groups were combined in their correct proportions in order to secure a sample of the actual school population. The measurements taken were as follows:—Age; classification of the thyroid by visual observation; circumference and diameter of the neck; breadth of the thyroid and height of each lobe when palpable; height and weight including all the past records of these available; colour of hair and eyes according to standard scales; strength of grip with each hand; systolic and diastolic pressures; pulse rate. In addition the Head Teachers kindly supplied information as to the proficiency in school work of each girl in relation to girls born in the same year.

"*Methods of assessing size.*—The conclusions reached were that:—(a) judgment of thyroid size by observation alone can only be recommended for use by a single observer carrying out an uninterrupted survey; (b) when so used a correlation of the order of .9 may be obtained between this method and actual measurement; (c) measurements of the neck as a whole are of very little use as an index of thyroid size owing to large individual variations in normal children of the same age and height, and their utility is confined to registering the progress of a large goitre from time to time; (d) the best measurement to use from all points of view is the maximum breadth of the gland, and as it has the advantage of simplicity it is recommended for future work; (e) the additional measurement of the height of the lobes, besides being difficult to carry out, adds nothing to accuracy for biometric purposes and is therefore not recommended; (f) where actual measurements is not practicable, the use of a standard gauge of simple construction is recommended for comparative work, and a specification for this gauge is suggested in the second paper referred to; by the use of such gauge it is believed that the personal equation would be reduced to small dimensions.

"*Relation to Age.*—In remarkable contrast to growth in other physical measurements, the average size of the thyroid gland under normal conditions undergoes very little change between the ages of 10 and 13½, but this is compensated by a rapid increase in average size between 13½ and 15, the adult size being reached about the age of 15 to 16. This latter effect is doubtless associated with the onset of menstruation. Owing to the increasing prevalence of goitre with age in endemic areas up to about the 16th year, the mean growth curve of the gland in such areas shows less flattening before puberty.

"*Height and Weight.*—Amongst normal groups of girls of the same age it might be expected that the tallest and best developed girls would tend to have also proportionately larger thyroid glands. This introduced a difficulty in attempting to unravel any correlation between growth and the tendency to thyroid enlargement. What is required is to determine whether, after allowing for the natural relationship between the normal size of the gland and the size of the child, any correlation remains which would indicate that enlargement of the gland tends to be associated either with (a) tallness or heaviness in excess of the average for the age in question, or (b) rate of growth at any special period in excess of the average rate of growth during that period. The method used was to first find the relationship between thyroid breadth and stature amongst the 'normal' girls. Having calculated the slope of this regression line of thyroid breadth on stature after correction to a constant age, the thyroid breadths of all the girls measured were corrected not only for age but also for their statures by measuring from this line. This assumes that any causative connection between thyroid size and growth would not come into operation until the gland was showing symptoms of enlargement, an assumption which at any rate will only err in the direction of under-estimating the amount of any positive causal relationship that may exist. It was found that an appreciable positive correlation remained between the amount of enlargement in girls and their heights and weights, and this correlation, with weight in particular, became more pronounced when attention was confined to the goitrous group alone. This must indicate that either (a) the factors causing goitre also stimulate growth, (b) the thyroid gland in its enlarged condition produces a stimulus to growth, or (c) goitre-is more prone to occur in those girls who are above the average in height and weight. It is not possible here to discuss the evidence for and against these alternatives, but it must suffice to say that the conclusion reached was that the real explanation is that given under (c).

"*Rate of Growth.*—This leads naturally to the question whether thyroid enlargement tends to occur in girls who have been consistently above their average size since early childhood, or in girls who grow very rapidly in the period about puberty. By means of the past records of height and weight extracted from the Medical Inspection cards, the rates of growth in excess or defect of the average for the age period covered were calculated and correlated with the thyroid size at the time of examination. It was found that the amount of thyroid enlargement at the time of measurement was significantly correlated with rate of increase in weight, and to a less extent with growth in height, in the year or two preceding that of measurement. A further analysis of the growth curves, from the age of 8 years, of girls with large and small goitres indicated that the group with large goitres were characterised on the whole by rates of growth which had been moderately but consistently above average for some years, whereas the group with small goitres were rather characterised by slow growth followed by a sudden period of rapid growth about the time of puberty. All this can be reasonably and readily explained if we suppose that thyroid enlargement, whether of the slighter degrees (often regarded as 'physiological') or of the more pronounced type (regarded as 'pathological') is a symptom of partial deprivation of some substance essential to maintain growth which is stored and distributed by the gland, and supplied from outside in a regular manner by food and water. In localities where the supply of this substance is sub-normal the first to exhibit symptoms of deprivation would on this theory be those whose requirements were above the average, that is to say, those who were growing rapidly, and since large goitres take a long time to develop they would tend to appear in those whose growth had been maintained at above the average rate for a considerable period of time.

"It seems impossible to explain these facts, and many others brought out in the complete investigation, on any infective theory of goitre unless the infective agent acts by preventing proper absorption of iodine.

"*Strength of Grip.*—This was measured for each hand and the maximum grip was used as the index of strength. After proper correction for age and height a considerable correlation remained between thyroid size and grip in the group of goitrous girls. Further correction for weight removed this relation and it appears that it was secondary to general physical development. In girls with constant age, height and grip, however, there remained a correlation between thyroid size and body weight, which seems to prove that the weight concerned in this relation is only to a small extent muscular

"*Blood Pressure and Pulse Rate.*—The systolic and diastolic pressures were measured by the auscultatory method in the sitting posture. The curve of diastolic pressure with age showed a rather striking similarity to the growth curve of the thyroid gland, the 'pubescent dip' in the curve being more pronounced than for any physical or physiological character hitherto measured. Both systolic and diastolic pressures after proper correction for age and height gave a significant correlation with the size of the thyroid, and their rate of development with age seems to have the same relation to large and small goitres as the rate of growth in weight. The pulse pressure, however, gave no such correlation, nor did the pulse rate, facts which discount the belief that adolescent enlargements in girls in this country are generally characterised by a condition of hyperthyroidism. Had this been the case the pulse-rate should have shown a general tendency to increase, and the pulse pressure which also increases with the basal metabolism would also have been correlated with size of the thyroid.

"*Colour of Hair and Eyes.*—No relation was found with either of these except that the small group of red haired girls had a significantly larger mean thyroid breadth than the rest; this superiority has been found for other physical characters, and though the numbers were too small to be sure of its significance it is not unlikely that the tendency is a real one.

"*Proficiency in School Work.*—The Head Teachers of the Schools visited kindly supplied information as to the proficiency of the girls in class work in relation to girls of the same age. Owing to girls of the same age being found in several classes of a school, their true position could only be determined by an approximation, assuming the girls in the lower class to follow on in order below those of the same age in the class above. In actual fact overlapping would occur, but the errors introduced would not be great, and it was possible to estimate approximately the position of each girl in a class of uniform size of girls of the same age.

"It was then found that after correction for height, which is positively correlated with class proficiency at constant age, there remained no appreciable relationship between thyroid size and proficiency, which discounts the idea that goitre is associated with backwardness.

"Space does not permit the actual presentation of the statistical evidence for the conclusions cited above nor any reference to many other conclusions reached in the complete inquiry regarding geographical distribution, effect of altitude, connection with other diseases* and the effects of iodine administration on growth,* but these will be found in the papers referred to.

"It is hoped, however, that this brief resumé may indicate the importance of further research on this subject, the fringe of which has only been touched in the present work.

"In conclusion we wish to heartily thank Dr. Meredith Young for kindly giving the facilities for this work, and also the Head Teachers of the Schools visited for their cordial assistance."

No. II.

The Problem of the Dull and Backward Child.

By W. J. McIvor, B.A., M.B., Ch.B.

"The dull and backward children of the Elementary School comprise some 10 per cent. of the whole, and if the dull-normals are included much higher figures are reached, according to American observers at any rate.

"Sir George Newman, in the Annual Report for 1926, to the Board of Education, defines the dull child as one showing mental impairment and the backward, as one whose normal development has been hindered by untoward circumstances.

"It is not proposed to deal in this report specially with the true mental defectives who are considered to be approximately 1 per cent. merely, of the total number of children of school age.

"Elsewhere in his report the Chief Medical Officer referring to the physique of the school child points out that on the whole the best children physically are the best mentally.

"The corollory to the maxim then is that generally speaking it is from the less robust of them that children of inferior mentality are recruited. Conversely, a proportion of the mentally sub-normal and deficient of them might be expected to show defects in physique discoverable by School Medical Inspection. In this light, dull children in general present a highly interesting field for investigation, but one demanding time and great care on the part of the examiner if he is to succeed in discovering the significance of their lack of brain power and not too frequently attribute it to some inherent quality of the latter. The use of such test questions as the Binet-Simon in the absence of the physical examination can readily lead to error. I hope to state some grounds which have obtruded the theory of a physical causation of mental disorders in school children at any rate.

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* See two further papers in the Annuals of Eugenics, Vol. II., Parts 3-4, October, 1927, pp. 382-404.

"An exceptional opportunity presented itself recently for the purpose. Naturally it is only in the less rural districts that special classes for the dull and backward can be arranged for the present at any rate. Past experience had been with the numerous individual cases of this type of child, but here were three whole classes of more or less dull children grouped together in a senior school, and graded already according to their scholastic ability and achievements by the junior schools of the vicinity who supply it. Normal children had been graded "A" and were 390 in number.

"What were considered normal but dull constitute grade "B" and numbered 39 in one special class. Grade "C" consists of two classes of the dull and backward, totalling 43. It fell to my lot to inspect this year, 28 of the dull and backward, 30 of the dull normals, and 154 of the normal. The dull and backward thus constitute more than 10 per cent. of the whole, and the dull normals another 10 per cent. It must be remembered, however, that 'these compartments are not water-tight' in this school any more than in general such groups ever are. In this connection frequent tests by means of school examinations and mental questions are applied here, and granted an adequate improvement shown, transference to a higher class takes place. The work demanded of them is at first about that of Standard three, their mental retardation being roughly from 1½ to 2½ years. The obtaining of 50 per cent. of the marks normal children are capable of at examinations merits rightly the move to a higher class. All these children are of the leaving class, meaning aged from 11 years upwards. It was noted with approval that use was made of open-air classes for nature study, practical and physical geography, out-door observation, etc., while light manual work, gardening, and in the case of girls housewifery, cookery and laundry, were practised by the backward alongside the normal children, 'a privilege without stigma.'

"The most noteworthy findings at the medical inspection of the school are embodied in a graph "A." In the compilation the aim has been to assess their total significance, steering clear of Scylla with its smoke-screen of minor defects, and avoiding the Charybdis of a too exacting standard that could fall foul of the fit. It might be hoped for them that, with a definite conception of what constitutes fitness, or otherwise, kept constantly in mind, the degree of error would be uniform and the total figures comparable; logically they can be doubled all round or if thought necessary halved similarly, and the final issue would not be obscured, for each group would receive equal if somewhat drastic treatment.

"Following these lines, and especially that one of being equally severe on one and all, it was found that the defects of the dull and backward child correspond in the main (*vide* graph B.) both in point of total and of severity with those of the merely dull normal. These two groups are accordingly classified together and confronted in graph A. (not reproduced here) with the normal group, a procedure that displays a striking picture of variation in physical health, and it is in this deviation that perhaps we have the key to a better understanding of the differentiation of children ofdiverse mentality.

"A word of explanation may be needed in regard to the comprehensiveness of the headings adopted while commenting on the figures of the charts.

"Dental caries to the extent of three or more decayed teeth and showing oral sepsis was considered a defect worth recording. Included in this category too are some examples of grossly irregular teeth and deformities of the palate. The comparatively low percentages of all indicate excellent work on the part of the School Dentists. Under Defective Vision anything worse than six-twelfths Snellen with both eyes is included. All who could be improved with glasses to less than this extent were wearing them, and were not taken into account unless their visien had only recently been corrected, and they had not had time to benefit from it. Included are a few who were incapable of improvement by glasses. Defective vision would seem then to be a causal factor to some extent for backwardness.

"Under the generic term of Nervous Instability many more might have been found, but it was restricted to mean Chorea, whether latent or manifest. It may be asked how latency was recognised, but it is not so concealed when gross involuntary movements of the protruded tongue are seen, and this was the lowest standard accepted as a defect. The dull and backward group would seem to have an advantage here, and it is certainly in keeping with the phlegmatic appearance of this particular type of child.

"In this series the only cardiac disabilities noted were mitral regurgitation with or without stenosis, with a mitral systolic murmur, a very considerable amount of hypertrephy, or dilitation, as the case may be, was allowed to rank as a defect. When a definite short presystolic murmur was present in addition to the systolic, a by no means uncommon occurrence, the accentuated pulmonary second sound, or its re-duplication was needed along with some hypertrophy (but, as might be expected, less than in pure mitral incompetence) to warrant a diagnosis of mitral stenosis as well as incompetence. The higher figures of the two dull classes coinciding exactly speak for themselves, and when contrasted with the 10 per cent. of the normal, halving or even quartering of all three cannot invalidate their significance.

"The sub-division of postural defects comprises only those errors of posture and balance that were accompanied by marked rigidity of the spine and which in my experience are commonly associated with rheumatic infection.

"It is remarkable to me that the two dull classes tally exactly in this respect (*vide* graph B) (not reproduced here). The test for sub-normal growth was failure to approach within 1½ years of the average height and weight. The dull normal corresponds in this detail with the normal child, apparently the only justification for the title of normal. For the purpose of the survey no notice is taken of moderate degrees of catarrhal conditions.

"The dull classes compare again unfavourably.

"The last sub-title on the charts provides one of the most illuminating views of the situation, the two dull groups reaching the pinnacle together of a mountain of disabilities that towers twice as high as the normal, and threatens to reach the sky top of 100 per cent. Another summary of the defects not shown in the diagram yields the information that relatively speaking twice as many marked defects were found among the dull groups as among the normal, which is in accordance with the general impression one receives at medical inspection, namely, that in the category of the dull children we are dealing with one which, compared with the normal, is far less robust.

"In so far then as the survey reveals the truth, we see the tendency of physical defects to be associated with sub-normal mental health, and a tendency, moreover, for both to run parallel in their severity. Can the same not be said about the feeble-minded in general?

"On many occasions when mental tests suggest some mental deficiency personally I have been unable to exclude a grave lesion of the body that conceivably might well co-exist with a profound toxic inhibition of the mental powers.

"Is not the tendency even in established cases of mental disease in our Institutions to ascribe its origin to some infection and to search for the locus, at times, too, with success?

"Newman emphasizes the fact that it is from the group of the dull and backward that the majority of our neuropathics, delinquents, unemployables and criminals originate.

"Have you not then at hand some profitable line of action by means of which to 'reduce the group or train it'? Should further research confirm the view that environment is a potent agent in their production, and one naturally capable of modification in our time, rather than heredity, which is not so. We are faced with a problem that is partly social and partly educational. Improvement in home conditions, better 'total nutrition,' provision of more special classes run on the right lines, provision, chief of all, in my opinion, of Institutions built with special regard to the amelioration of the health of these delicate children should then be our ideal.

"In school beside a more intensive pursuit of the elusive foes of health greater opportunities for periods of rest for some children might be found, and others will need exclusion from a share in the severer exercises. Here too, of paramount importance, is a well-planned scheme for the supply of a good daily meal, supplemented in any necessitous cases by the grant, if requisite, of an adequate supply of cod liver oil, and of milk too on a generous scale.

"If my brief is proved correct that mental disabilities cannot be dissociated from physical ones, we see, indeed, a ray of hope for the future that may illumine many a vista, and perchance restrict the happy hunting grounds of the psychologist and of the alienist. 'The best athletes are the best scholars.'

"Granted a sound body, the brain can be safely relegated to its custody."

Mens sana in corpore sano.

W. J. McIvor.

31st March, 1928.

No. III.

Sleep.

By Jenny C. King, M.B., Ch. B., D.P.H.

"One of the biggest factors in the causation of indefinite ill-health among school children is late bedtime. It is easy to pick out the children who do not get enough rest. The signs are obvious:—pale faces, black rings round the eyes. tired dull eyes, poor muscalature, lack of energy, solemn sad expression (never a smile).

"The hour for going to bed is too late among all classes of children.

"*In the poorer classes.*—The younger children have no fixed hour for going to bed. The parents do not consider this a necessity. When questioned they give various reasons: (1) it has not occurred to them to put the younger children to bed before the older ones; (2) the children have to wait up till the father comes home from work before they can have their evening meal; (3) they cannot get the children in from the streets (especially in the summer); (4) the parent keeps a shop and has to wait till closing time before she can attend to the children.

"Many mothers say that the extra hour of daylight introduced by the Daylight Saving Bill has made things more difficult, thus confessing that the bedtime, far from being a fixed hour throughout the year, varies with the sunset.

"It is difficult for the older children of a poor family to go to bed early. The boys are outside till all hours, and the girls are expected to do endless little duties when they come home from school, such as running messages, washing up, as well as do their homework.

"It is not always easy to advise the parents on this subject. There are some (those who have not realised that bedtime is an important factor in the child's life, and who are bringing up their children as they themselves were brought up) who listen interestedly to what has to be said and determine that 'early to bed' shall be the rule in the future.

"There are others, however, who resent any advice given and consider it a slight if it is suggested that they are doing something wrong in keeping a child of 4 or 5 years of age up till 9 o'clock at night. Little can be done with such cases and one can only hope that their numbers will decrease as education increases.

"*In the better classes.*—In most cases the young child has 12 or 13 hours sleep. The child has, until coming to school, been accustomed to an afternoon sleep. This is not always remembered, and there are a few cases where, when a child attains school age, it is considered grown up and independent of sleep

"As regards the older children, late bedtime is a common fault. The reasons for this are, however, different from those mentioned in connection with the poorer child. Some are (1) company for the parents (usually the case with only children); (2) too much homework; (3) piano practising; (4) visits to picture theatres; (5) wireless.

"At one Secondary School when the Headmistress asked all he children to name their favourite item on the wireless programme it was found that 63 per cent. named the Savoy bands. It is known that these bands are not broadcast till 10-30 p.m.. and sometimes 11 p.m. and 11-30 p.m.

"Bedtime will always be a problem because the only way of tackling it is through the parents. In Secondary Schools where parents and headmistress have opportunities of meeting, the subject can be taken up and discussed regularly; but in Elementary Schools it is a point seldom referred to. If the Head Teachers were provided with lists of suitable bedtimes and encouraged to impress their importance on the parents at parents' meetings, &c., perhaps in time the tired sad-looking children will be replaced by healthy happy ones."

No. IV.

Vaccination.

By Mary D. Sheridan, M.B., Ch.B.

"Whilst filling in forms for Convalescent Homes, etc., I was struck with the number of children who had not been vaccinated, especially in some areas. In view of the fact that there had been several small-pox 'scares' during the last few months I thought you might be interested to have some actual figures to compare and classify. The result of my enquiries is rather disquieting. I give all the figures below.

"I should like to say that *only* the older children (in Standards V., VI. and VII.) were questioned, and wherever a child was not sure whether he had been vaccinated or not, we undressed him to look for scars. I regret that it was not possible to undress *all* the children questioned and to have the scars counted, but this would have taken more time than I could afford to the subject.

"These unvaccinated children, when they, in turn, become parents, will certainly refuse to have their children vaccinated; and the now vaccinated ones, with this bad example before them, will also tend to minimise the importance of early and adequate inoculation against small-pox. Extensive propaganda will, I fear, be the only cure for this state of affairs in

Cheshire, and tightening of legislation will be necessary, especially in Ellesmere Port, where the law is apparently more honoured in the breach than in the observance.

"In order of averages, beginning with the highest *vaccinated* average :—

New Ferry Area.

	Children seen.	Children vaccinated.
Church Drive Council Mixed	141	84
Grove Street Council Mixed	179	157
Chester Road Council Boys	146	119
Chester Road Council Girls	134	132
St. John's R.C. Mixed	104	93
Totals	704	585

Vaccinated, 83 per cent.

Frodsham Area.

	Children seen.	Children vaccinated.
C.E. Boys	67	38
C.E. Girls	72	66
Totals	139	104

Vaccinated, 74.8 per cent.

Seven Rural Schools.

	Children seen.	Children vaccinated.
Great Saughall	57	34
Mickle Trafford	18	15
Capenhurst	41	25
Dodleston	23	18
Eccleston	28	27*
Kelsall	42	22*
Bromboro'	47	43
Totals	256	184

Vaccinated, 71.8 per cent.

Hoole Area.

	Children seen.	Children vaccinated.
C.E. Boys	119	80
C.E. Girls	77	50
Totals	196	130

Vaccinated, 66.2 per cent.

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* Note difference.

Ellesmere Port Area.

Primitive Methodist Mixed	67	38
John Street Council Mixed	199	91
C.E. Girls	73	35
C.E. Boys	58	28
Totals	397	192

Vaccinated, 48.3 per cent.

"This last percentage must surely be one of the lowest in the whole country."

APPENDIX II.

STATISTICAL TABLES.

Public Elementary Schools.

Table I.—Return of Medical Inspections.

(A.) Routine Medical Inspection.

Number of Code Groups Inspections—	
Entrants	7266
Intermediates	5685
Leavers	6058
Total ...	19009
Number of Other Routine Inspections ...	496

(B.) Other Inspections.

Number of Special Inspections	*6997
Number of Re-inspections	2366
Total ...	9363

* This figure includes examinations by Doctors at Eyesight and Minor Ailment Clinics, examinations as to suitability for open air swimming and for Employment Certificates.

Table II.

(A.) Return of Defects found by Medical Inspection in the year ended 31st December, 1927.

DEFECT OR DISEASE.	Routine Inspections.	Special Inspections.
	No. of Defects requiring Treatment.	No. of Defects requiring Treatment.
MALNUTRITION	47	18
UNCLEANLINESS	863	71
SKIN—		
Ringworm—		
Scalp	24	101
Body	4	70
Scabies	13	49
Impetigo	94	1184
Other Diseases (Non-Tuberculous) .	59	124
EYE -		
Blepharitis	142	160
Conjunctivitis	13	33
Keratitis	–	13
Corneal Opacities	7	53
Defective Vision (excluding Squint) ...	1502	1559
Squint	111	340
Other Conditions	9	115
EAR—		
Defective Hearing	85	20
Otitis Media	85	53
Other Ear Disease	8	46
NOSE AND THROAT—		
Enlarged Tonsils only	320	30
Adenoids only	301	26
Enlarged Tonsils & Adenoids	528	51
Other Conditions	101	10
ENLARGED CERVICAL GLANDS (Non-Tuberculous)	108	11
DEFECTIVE SPEECH	32	2
TEETH—Dental Diseases	1770	98
HEART AND CIRCULATION—		
Heart Disease—		
Organic	218	27
Functional	27	5
Anæmia	135	14
LUNGS—		
Bronchitis	123	7
Other Non-Tuberculous Disease ...	6	3
TUBERCULOSIS—		
Pulmonary—		
Definite	–	–
Suspected	17	7
Non pulmonary—		
Glands	15	2
Spine	1	1
Hip	1	2
Other Bones and Joints	–	–
Skin	6	3
Other Forms	16	6
NERVOUS SYSTEM—		
Epilepsy	7	5
Chorea	7	2
Other Conditions	2	1
DEFORMITIES—		
Rickets	78	4
Spinal Curvature	81	4
Other Forms	50	12
OTHER DEFECTS AND DISEASES	167	38

Table II.

(B.) Number of individual Children found at Routine Medical Inspection to require Treatment (excluding Uncleanliness and Dental Diseases).

	Number of Children.		Percentage of Children found to require Treatment.
	Inspected.	Found to require Treatment.	
Code Groups—			
Entrants	7266	1687	23·2
Intermediates ...	5685	1413	24·8
Leavers	6058	1366	22·5
Total (Code Groups) ...	19009	4466	23·4
Other Routine Inspections	496	101	20·0

TABLE III.—Return of all Exceptional Children in the Area.

			Boys.	Girls.	Total.
BLIND (including partially blind).	(1) Suitable for training in a School or Class for the totally blind	Attending Certified Schools or Classes for the Blind	9	6	15
		Attending Public Elementary Schools	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	6	5	11
	(2) Suitable for training in a School or Class for the partially blind	Attending Certified Schools or Classes for the Blind	3	4	7
		Attending Public Elementary Schools	17	19	36
		At other Institutions	—	—	—
		At no School or Institution	4	2	6
DEAF (including deaf and dumb and partially deaf).	(1) Suitable for training in a School or Class for the totally deaf or deaf and dumb	Attending Certified Schools or Classes for the Deaf	16	9	25
		Attending Public Elementary Schools	2	2	4
		At other Institutions	—	—	—
		At no School or Institution	5	1	6
	(2) Suitable for training in a School or Class for the partially deaf	Attending Certified Schools or Classes for the Deaf	4	2	6
		Attending Public Elementary Schools	14	16	30
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
MENTALLY DEFECTIVE.	(1) Feeble-minded (cases not notifiable to the Local Control Authority).	Attending Certified Schools for Mentally Defective Children	15	6	21
		Attending Public Elementary Schools	184	140	324
		At other Institutions	—	—	—
		At no School or Institution	21	16	37
	(2) Notified to the Local Control Authority during the year	Feeble-minded	4	3	7
		Imbeciles	10	8	18
		Idiots	2	3	5
EPILEPTICS.	Suffering from severe epilepsy -	Attending Certified Special Schools for Epileptics	3	1	4
		In Institutions other than Certified Special Schools	—	—	—
		Attending Public Elementary Schools	2	2	4
		At no School or Institution	6	5	11
	Suffering from epilepsy which is not severe	Attending Public Elementary Schools	21	25	46
		At no School or Institution	—	—	—
PHYSICALLY DEFECTIVE.	Infectious pulmonary & glandular tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	31	21	52
		At other Institutions	—	—	—
		At no School or Institution	10	11	21
	Non-infectious but active pulmonary and glandular tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	18	9	27
		At Certified Residential Open-Air Schools	—	—	—
		At Certified Day Open-Air Schools	—	—	—
		At Public Elementary Schools	31	18	49
		At other Institutions	—	—	—
		At no School or Institution	12	17	29

TABLE III.—continued.

			Boys.	Girls.	Total
PHYSICALLY DEFECTIVE.	Delicate children (*e.g.* pre-or latent tuberculosis, malnutrition, debility, anæmia, &c.) ...	At Certified Residential Open-Air Schools	13	13	26
		At Certified Day Open-Air Schools	—	—	—
		At Public Elementary Schools ...	408	476	884
		At other Institutions ...	—	—	—
		At no School or Institution ...	16	19	35
	Active non-pulmonary tuberculosis ...	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board ...	31	25	56
		At Public Elementary Schools ...	35	31	66
		At other Institutions ...	—	—	—
		At no School or Institution ...	5	3	8
	Crippled Children (other than those with active tuberculosis disease) *e.g.* children suffering from paralysis, &c., and including those with severe heart disease ...	At Certified Hospital Schools (Shropshire)	1	3	4
		At Certified Residential Cripple Schools	1	—	1
		At Certified Day Cripple Schools...	—	—	—
		At Public Elementary Schools ...	192	216	408
		At other Institutions	—	—	—
		At no School or Institution ...	15	25	40

Table IV.—Return of Defects Treated during the year ended 31st December, 1927.

Treatment Table.

Group I.—Minor Ailments (excluding Uncleanliness, for which see Group V).

Disease or Defect. 1	Number of Defects Treated, or under Treatment during the year.		
	Under the Authority's Scheme. 2	Otherwise. 3	Total. 4
SKIN—			
Ringworm—Scalp	88	24	112
Ringworm—Body	54	6	60
Scabies	49	15	64
Impetigo	1066	154	1220
Other Skin Diseases ...	124	51	175
MINOR EYE DEFECTS ... (External and other, but excluding cases falling in Group II.)	244	73	317
MINOR EAR DEFECTS ...	109	86	195
MISCELLANEOUS ... .. (*e.g.* Minor injuries, bruises, sores, chilblains, etc.)	802	75	877
Total ...	2536	484	3020

Group II.—Defective Vision and Squint (excluding Minor Eye Defects Treated as Minor Ailments—Group I.).

Disease or Defect. 1	Number of Defects dealt with.			
	Under the Authority's Scheme. 2	Submitted to Refraction by Private Practitioner or at Hospital apart from Authority's Scheme. 3	Otherwise. 4	Total. 5
Errors of Refraction (including Squint). Operations for Squint should be recorded separately in body of Report	2697	122	202	3021
Other Defect or Disease of the Eyes (excluding those recorded in Group I.) ...	—	—	—	—
Total ...	2697	122	202	3021

Total number of Children for whom Spectacles were prescribed—

(*a*) Under Authority's Scheme ...	1559
(*b*) Otherwise	168

Total number of Children who obtained or received Spectacles—

(*a*) Under Authority's Scheme ...	1108
(*b*) Otherwise	260

Group III.—Treatment of Defects of Nose and Throat.

NUMBER OF DEFECTS.				
Received Operative Treatment.			Received other forms of Treatment. 4	Total Number Treated. 5
Under the Authority's Scheme, in Clinic or Hospital. 1	By Private Practitioner or Hospital, apart from Authority's Scheme. 2	Total. 3		
626	124	750	251	1001

Group IV.—Dental Defects.

(1) Number of Children who were

(*a*) Inspected by the Dentist :—

	Aged			Total.
Routine age Groups	5	...	2233	
	6	...	3543	
	7	...	4560	
	8	...	2861	
	9	...	1770	
	10	...	1721	
	11	...	796	
			——	17484
Specials ...	...	...	...	483
				17967

(*b*) Found to require Treatment			12917
(*c*) Actually Treated			6599
(*d*) Re-treated during the year as the result of periodical Examination			1404
(2) Half-days devoted to Inspection ...	502		
,, ,, Treatment ...	1209	Total	1711
(3) Attendances made by Children for Treatment ...			9428
(4) Fillings— Permanent Teeth ..	1895		
Temporary Teeth ...	3688	Total	5583
(5) Extractions—Permanent Teeth ...	550		
Temporary Teeth ...	14517	Total	15067
(6) Administrations of general Anæsthetics for Extractions			—
(7) Other Operations (Silver Dressings)—			
Permanent Teeth ...	591		
Temporary Teeth ...	874	Total	1465
Scalings			511
Gum Dressings			291

Group V.—Uncleanliness and Verminous Conditions.

(1) Average number of visits per School made during the year by School Nurses	6
(2) Total number of Examinations made of Children in the Schools by School Nurses	144142
(3) Number of individual Children found unclean ...	2687
(4) Number of Children cleansed under arrangements made by the Local Education Authority ...	—
(5) Number of Cases in which Legal Proceedings were taken—	
(*a*) Under the Education Act, 1921 ...	-
(*b*) Under School Attendance Bye-Laws ...	-

APPENDIX III.—STATISTICAL TABLES.

Secondary Schools.

TABLE I.—Shewing Number of Children Examined at Different Ages.

														Total.
Ages	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Boys	—	—	11	12	33	45	101	261	168	33	55	81	33	17	850
Girls	—	—	45	28	34	47	107	161	37	16	37	38	41	16	607
Totals	—	—	56	40	67	92	208	422	205	49	92	119	74	33	1457

Secondary Schools

Table II.—*Shewing* Nature of Defects referred to for Treatment and cases where Defects were Remedied.

DEFECT OR DISEASE.	Referred for Treatment.	Received Treatment.
MALNUTRITION	—	—
UNCLEANLINESS—		
Head	4	4
Body	—	—
SKIN—		
Ringworm—		
Head	—	—
Body	—	—
Scabies	—	—
Impetigo	—	—
Other Disease	12	6
EYE—		
Defective Vision or Squint	109	70
External Eye Disease	8	4
EAR—		
Defective Hearing	3	3
Ear Disease	1	1
TEETH—		
Dental Disease	70	58
NOSE AND THROAT—		
Enlarged Tonsils	14	10
Adenoids	1	1
Defective Speech	3	1
Tonsils and Adenoids	8	6
Other Conditions	7	5
HEART AND CIRCULATION—		
Heart Disease—		
Organic	29	18
Functional	3	2
Anæmia	30	24
LUNGS—		
Pulmonary Tuberculosis—		
Definite	—	—
Suspected	—	—
Chronic Bronchitis	5	3
Other Disease	3	1
NERVOUS SYSTEM—		
Epilepsy	—	—
Chorea	—	—
Other Disease	—	—
NON-PULMONARY TUBERCULOSIS—		
Glands	—	—
Bones and Joints	—	—
Spine	—	—
Hip	—	—
Other Forms	—	—
Rickets	—	—
Deformities—Spinal Curvature	20	14
Other Forms	36	19
OTHER DEFECTS OR DISEASES	5	2